

RMCG



JULY 2020

North West Agricultural Workforce Plan Consultancy Project

Final Report

Department of State Growth Tasmania

4th Floor, 29 Elizabeth Street, Hobart Tasmania 7000

rmcg.com.au

Table of Contents

Definitions	1
Abbreviations	2
Executive Summary	3
1 Introduction	9
1.1 BACKGROUND	9
1.2 SCOPE	9
1.3 CONTEXT	10
2 Approach and methodology	16
2.1 KEY QUESTIONS	16
2.2 A STAGED APPROACH	16
2.3 PHASE ONE: PROJECT PLANNING	16
2.4 PHASE TWO: INTERVIEWS AND CONSULTATION	17
2.5 PHASE THREE: ANALYSIS AND REPORTING	17
3 Interview demographics	19
3.1 BUSINESS CATEGORIES AND BUSINESS SIZES	19
3.2 BUSINESS LOCATIONS	21
3.3 EMPLOYEE AND EMPLOYMENT CHARACTERISTICS	23
3.4 TYPE OF EMPLOYMENT AND JOB ROLES	23
4 Use of contractors and professional services	27
4.1 CONTRACTORS	27
4.2 PROFESSIONAL SERVICES	28
5 Skills and training needs	30
5.1 CURRENT AND PROJECTED JOB ROLES	30
5.2 CURRENT TRAINING AND SKILLS GAPS	32
5.3 PROJECTED SKILLS GAPS AND TRAINING NEEDS	33
6 Attitudes towards training	38
6.1 TRAINING AS PART OF PLANS AND BUDGETS	38
6.2 USE OF THE APPRENTICESHIP SYSTEM	40
6.3 STRENGTHS AND WEAKNESSES OF TRAINING, BARRIERS AND SUGGESTIONS	41
6.4 OVERVIEW OF STRENGTHS	41
6.5 OVERVIEW OF WEAKNESSES:	41
6.6 BARRIERS TO TAKING UP TRAINING	42
6.7 SUGGESTIONS TO IMPROVE PARTICIPATION IN TRAINING	43

7	Feedback from education and training providers	46
8	Education and training opportunities	49
8.1	CURRENT EDUCATION AND TRAINING	49
8.2	OPPORTUNITES	49
9	Synthesis	52
9.1	MAPPING AND CAREERS	52
9.2	THE NORTH WEST AGRICULTURAL WORKFORCE DEVELOPMENT AND SUPPORT PLAN	59
	References	64
	Appendix 1: Project flyer	65
	Appendix 2: North West Tasmania Profile	66
	NUMBER OF BUSINESSES	68
	Appendix 3: Survey form	73
	Appendix 4: Interview numbers by LGA	88
	Appendix 5: Training for agriculture overview	89
	ABOUT THE DEVELOPMENT OF VET COURSES	90
	PUBLIC INFORMATION ON AG TRAINING	91
	UTAS EDUCATION	91
	Appendix 6: Tas TAFE registrations	93
	Appendix 7: Interviewer debrief – impressions	98

Definitions

Accreditation	Formal recognition of a course by the National VET Regulator under the Act. Source: https://www.asqa.gov.au/standards-vac/definitions .
Extension	Is about working with people in a community to facilitate change in an environment that has social, economic and technical complexity. This is achieved by helping people gain the knowledge and confidence, so they want to change and providing support to ensure it is implemented effectively. Source: https://www.apen.org.au
Learning	<p>The process followed by a learner. There are three types:</p> <ul style="list-style-type: none">▪ Formal learning - learning that takes place through a structured program of instruction and is linked to the attainment of a formal qualification or award (for example, a certificate, diploma or university degree). Source: https://www.asqa.gov.au/standards-vac/definitions▪ Non-formal learning - learning that takes place through a structured program of instructions but does not lead to the attainment of a formal qualification or award (for example, in-house professional development programs conducted by a business). Source: https://www.asqa.gov.au/standards-vac/definitions▪ Informal learning - learning that results through experience of work-related, social, family, hobby or leisure activities (for example the acquisition of interpersonal skills developed through several years as a sales representative). Source: https://www.asqa.gov.au/standards-vac/definitions
Skill Set	A single unit of competency or a combination of units of competency from a training package which link to a licensing or regulatory requirement, or a defined industry need. Source: https://www.asqa.gov.au/standards-vac/definitions .
Training	In the context of this report, training means accredited training.

Abbreviations

ABS	Australian Bureau of Statistics
AHC	Agricultural, Horticultural, Conservation and Land Management Training Package
AISC	Australian Industry Skills Committee
ASQA	Australian Skills Quality Authority
ATV	All-terrain vehicle
GIS	Geographic information system
GPS	Global positioning system
HR	Human Resources
IT	Information technology
LGA	Local government area
MLA	Meat and Livestock Australia
NALAC	National Agricultural Labour Advisory Committee
OHS	Occupational health and safety
PIEFA	Primary Industries Education Foundation Australia
QA	Quality assurance
RDC	Research and development corporation
RTO	Registered training organisation
SSO	Skills Services Organisation
TAEN	Tasmanian Agricultural Educators Network
TAFE	Technical and Further Education system
TasTAFE	TasTAFE is a Tasmanian tertiary education body of the Australian state-based Technical and Further Education system run by the Tasmanian State Government
TCCI	Tasmanian Chamber of Commerce and Industry
TFGA	Tasmanian Farmers and Graziers Association
TIA	Tasmanian Institute of Agriculture
UTAS	University of Tasmania
VET	Vocational education and training
WHS	Workplace health and safety
YAPN	Young Agricultural Professionals Network Tasmania

Executive Summary

OVERVIEW

This Northwest Agriculture Workforce Plan Consultancy Project (Consultancy Project) report is one output from the 'Northwest Tasmanian Job Ready Generation Package'. The purpose of the Consultancy Project was to investigate skills and training needs for agricultural industries and supply chains in the northwest region of Tasmania, consult with the education and training sector and, based on findings, to develop strategies to meet identified needs.

The report details methods, findings and maps workforce and skills needs against training opportunities. It outlines a plan describing what industry, government and education and training providers could do to support the growth of a highly valued agricultural workforce in the North West region. The plan suggests strategies aimed at accomplishing delivery of the required training services and achieving a culture of training in the agricultural sector.

The survey findings and identified education and training opportunities presented in this report were used to provide responses to key study questions about:

1. Employment and career opportunities in the agricultural sector in North West Tasmania
2. The skill, knowledge and attribute requirements of those opportunities, and
3. What industry, government, and education and training providers can do to support the growth of a highly valued agricultural workforce in the North West region of Tasmania.

In the resulting plan, strategies and tactics have been presented in five focus areas:

1. Policy matters – supporting industry leadership, training development and delivery
2. Industry image and promotion – changing the image of agriculture and attitudes towards the sector
3. Effective training systems – enabling quality training delivery that is recognised by industry
4. Skills, qualifications and careers – supporting jobs and careers from many entry points, training brokerage and cross industry coordination of training
5. Looking after people in agriculture – including training for employers and trainers.

CONSULTANCY PROJECT METHODOLOGY

The methodology has largely been based on the earlier, Agriskills Project "Projected skills assessment pilot project for the Northern Midlands". The core activity involved 110 interviews with producers from all industries represented in the region, as well as processors and service providers. Interviews focussed on current and projected workforce and skills needs. Consultation with education and training providers were conducted to understand current systems, drivers, challenges and opportunities for training and workforce development.

Findings from interviews and the focus for next steps, the development of a workforce plan, were reviewed in a workshop with the project steering group. Further data analysis and synthesis provided the basis for mapping skills and workforce needs against training options suitable for developing a workforce with the required hard and soft skills.

The final step of the Consultancy Project was the development of strategies for a Northwest Agriculture Workforce Plan.

NORTHWEST REGION PROFILE

Agriculture is economically important to the region; northwest Tasmania accounts for a significant proportion of Tasmanian agriculture. The main farming systems focus on dairy production, mixed farming including livestock production (beef, sheep) and annual crops (vegetables, poppies, pyrethrum, some grains), as well as perennial crops including tree fruit, berries and wine grapes. Protected cropping (greenhouses, polytunnels) has increased in the region over the past 10 years, especially raspberry and strawberry production, either grown in the ground or in hydroponics. Tomatoes, capsicums and flower crops are also produced in protected systems.

The region has a large number of small-medium scale businesses (SMEs) as well as large scale vegetable and berry fruit producer/packers and processing companies. Processing is more prominent in northwest Tasmania than in other regions. It covers processing vegetables including potatoes, dairy products, meat and pyrethrum. The majority of annual crops are grown under contract for processors and also packers.

Producers in the region rely heavily on service providers such as field officers (employed by processors), contractors (e.g. for tillage, sowing, spraying/fertilising and harvesting) and professional technical services (e.g. agronomy advice, production input supplies, irrigation design and equipment, farm machinery, seedling production). Financial management services are important to SMEs who do not employ specialised staff. Smaller scale companies rely on multiskilled owners and staff while processors and some larger scale producers are able to employ staff for specific functions in the business. Larger agricultural businesses have clear structures and documented plans that include training.

Major trends in the region mirror those experienced in agriculture generally, they involve:

- Mechanisation to reduce labour costs e.g. vision grading technology in packing sheds
- Increased availability of farm technologies e.g. precision agriculture applications (variable rate irrigation, drainage plans, precision liming or fertiliser applications), virtual fencing, robotic dairies, farm software and apps for capturing and managing data, sophisticated weather and soil moisture monitoring systems
- Reliance on seasonal workers from overseas or interstate for manual work that cannot be replaced by technology.

The region has a number of small to medium townships that all rely on agriculture and most people have a connection to agriculture in their family or circle of friends.

STUDY FINDINGS

Employee attributes and needs

Overall, males and females are employed in about equal numbers. However, job roles differ; technical and full time positions are mainly occupied by men and part time positions and those involving manual work have a greater proportion of women. In the older age groups (>40) male employees dominate the workforce, this is more prevalent with processors and service providers. Only very few female agronomists, field officers and trades people operate in the region.

The use of labour hire company services is important for labour intensive, seasonal processes that cannot be mechanised such as fruit picking/packing for the fresh market and hand harvesting/packing fresh vegetables. Given the large amount of fruit, especially berries, as well as vegetables produced in the region, a large proportion of the workforce is made up of seasonal, casual labour managed by labour hire companies. This means that manual workforce needs and numbers expand immensely over the summer months.

Of businesses interviewed, excluding labour hire companies, 41% of employees had permanent or fixed term contracts, 32% of employees were employed on casual contracts and 26% were employed via labour hire arrangements. However, the relative proportion of full or part time permanent employees versus casual employees varied depending on the type of business. About 60% of employees working for processors were on either permanent or fixed term contracts, while only 27% of producers employed staff on permanent or fixed terms. This highlights that farming businesses predominantly offer seasonal and therefore casual work. Producers tend to employ people on casual contracts to allow for flexibility in staff numbers given the seasonality of work.

A majority of employers mentioned that they are finding it difficult to attract staff with the 'right' attitudes and work ethic (soft skills). Many producers believe that they can train staff in 'what they need to know to do the job', as long as people had the required attitude.

Employers had the most difficulty filling the following roles:

- Maintenance / tradespeople
- Professional services, for instance well trained agronomists
- Skilled operational / supervisory staff.

Apparently, 'general farm labour' roles were less difficult to fill for many producers than staff for more specialised roles. Fruit pickers represent a large number of the current seasonal workforce and more will be required in future. So far, these roles could be filled with the help of labour hire companies via seasonal worker programs and backpackers. Roles in packing sheds were fairly easy to fill according to feedback from interviews.

1. Employment and career opportunities in the agricultural sector in northwest Tasmania

A large proportion of jobs in the region are for 'Doers'; the work is mainly 'hands-on'. This covers seasonal/casual staff and general farm labour as well as packing or processing factory workers. Still, an increased 'Doer' workforce and growing productivity, as well as the continued increase in new technologies for the sector requires an increased number of well-trained people in 'Decisionmaker' positions. The sector already needs more trained 'Decisionmakers' to ensure succession and innovation in the industry even without a projected increase in job numbers.

In the next five years, the number of roles in packing sheds is expected to decrease, due to increased mechanisation. There is an expected increase in the number of jobs for:

- Fruit pickers
- Qualified maintenance and tradespeople (mechanical, engineering, electrical) with relevant training specific to agriculture or general training
- General farm labour in all production systems and enterprises (with 'right' attitudes and skills)
- People with supervisory skills (who have been trained or are experienced in the area of work they are supervising and preferably in people management).

If the current trend in agriculture of less but larger scale businesses is continuing, there will be an increased need for supervisors and managers with skills in overseeing people and processes. Supervisory roles are already difficult to fill, and this situation is expected to worsen, if not addressed.

Jobs and careers considered important for the agricultural sector include:

- Specialist tradespeople and people trained in new technologies such as robotics, high-tech equipment and farm and processing machinery development and maintenance
- Agronomists with traditional agronomy skills and knowledge in applications of new on farm technologies, protected cropping/hydroponics (not only sales agronomists)
- Professional services for instance accounting, data management, compliance management
- Trainers and teachers in agriculture, especially to deliver training in agronomy, on farm technologies and people management.

While not identified by many during interviews, it is important to consider the likely increasing need for people trained in environmental management and biosecurity.

The job roles that are currently difficult to fill e.g. maintenance, supervisors or qualified agronomists are also the jobs that are expected to increase in numbers in the future. They will become more difficult to fill unless skills and labour needs can be addressed. This includes the training of trainers and teachers.

It stood out that training for the dairy industry was mostly rated positively. The dairy industry, via Dairy Australia and state based networks has a track record of engaging with training providers and promoting the industry. Still, there was a lack of skilled workers for the industry in the northwest region of Tasmania.

Poaching of 'good employees has been identified as an issue by many.

2. Skills, knowledge and attribute requirements

The industry will require people with management and leadership skills on many levels whether they are supervising smaller groups of people, manage certain aspects or entire work areas or manage a business.

Overall, soft skills have been identified as important for all levels of work in agriculture.

Technical trades and technical literacy are increasingly important, from using software programs and apps to running sophisticated equipment and machinery.

While many producers mentioned that they can train people on-farm, there is a need to generally increase the knowledge level of the workforce for instance in handling of farm machinery and animal husbandry as well as practical crop management skills such as using equipment to apply crop protection products and fertilisers or using planters, harvesters and irrigation systems. There is also a need for better general literacy and numeracy skills. Without these skills, it is not possible for people to follow written instructions and complete further training to have a career.

Seasonal workers to be employed via labour hire arrangements would benefit from an induction package that would cover at a minimum workplace safety, food safety and biosecurity. It could be delivered as an e-learning course and should be suitable for people who speak languages other than English.

General challenges to overcome

A large proportion of the workforce is employed on a seasonal, casual basis and or via labour hire companies. Employers usually do not support their training.

Generally, training was valued higher by those who were well trained themselves. Overall training was considered more important by them and thus included in plans in larger sized businesses. Therefore, there is a challenge in developing a culture of training in the region, given that the majority of businesses are small to medium sized. Many are run by owner-managers as a leader and role model. This highlights the importance of supporting professional development of owner-managers and that of others who supervise employees in larger businesses.

The overall culture of a business is important to training and the attraction and retention of staff. Employers who developed good relationship with RTO's and looked after their workforce generally reported more positive experiences with attracting and retaining staff and training outcomes. However, it may be difficult to convey this to those who have different experiences. Thus, training offered to employers, for instance about working with young people and generally how to supervise and manage employees may not be taken up by the group of employers that may need it most.

Challenges for training of 'Doers'

Currently there is a low level of actual training delivery, especially for horticulture, because of low registration rates for courses. Reasons are, amongst others, the negative industry image and a lack of targeted short courses at the right times or locations relevant for people already in the workforce. Other issues are that:

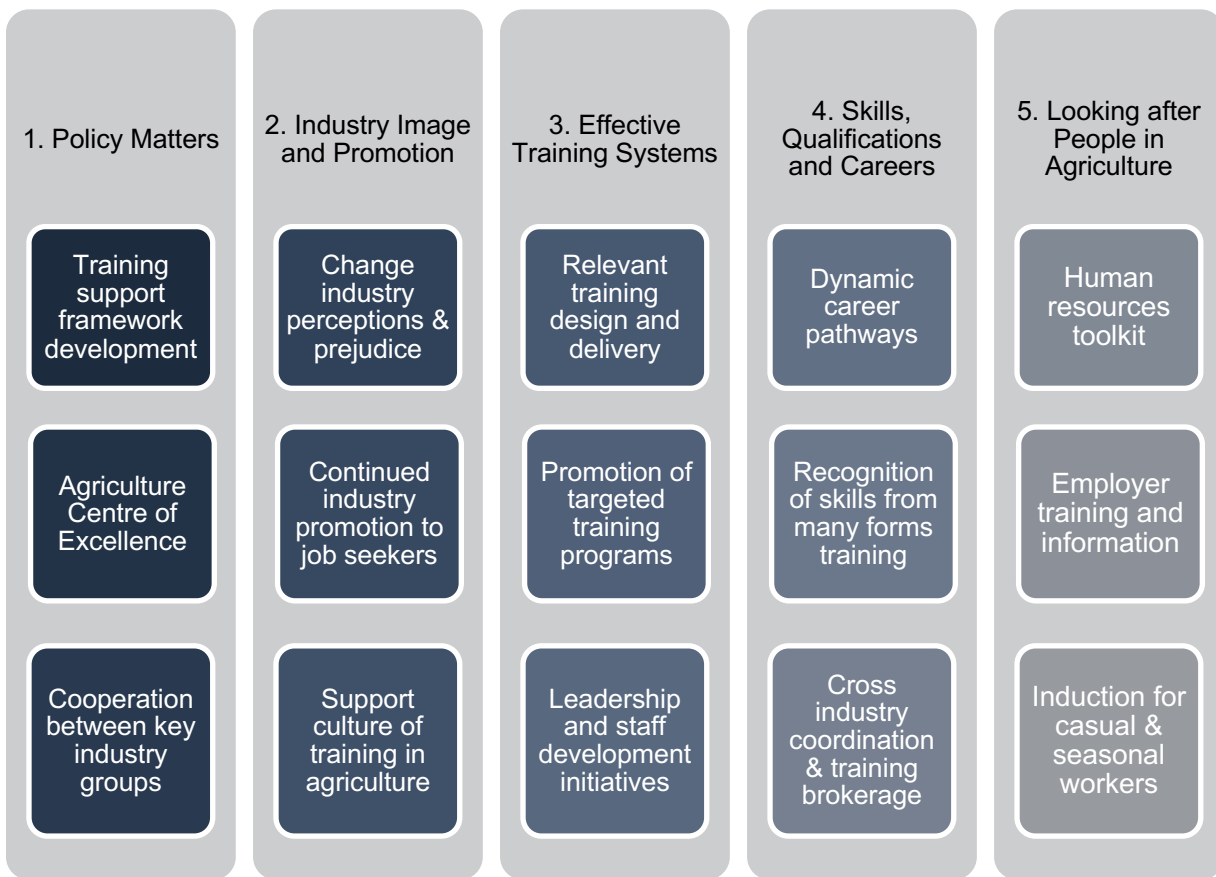
- Training offers can be hard to find or comprehend for students (what will I learn, what is it good for?)
- Vocational training appears to be too much like school and many young people are not keen to continue schooling
- Courses are promoted rather than skills sets and how skills sets can lead to qualifications
- There is a lack of qualified teachers and trainers
- There often is a lack of access to modern machinery, equipment and technology for training providers
- A lack of promotion of jobs and careers in agriculture to people that do not have an agricultural background and or are training in other relevant sectors.

Challenges for training of 'Deciders'

- Agriculturally focused courses by tertiary institutions experienced dwindling student numbers over the past 10 years, therefore only a few tertiary institutions offer agriculture, and even fewer offer production horticulture courses now (nationally). On the positive side, the University of Tasmania is still a major provider of agri-food education and training. However, Tasmania needs a greater number of well-trained 'Deciders' in the future than currently educated and trained in Tasmania
- According to current national enrolments, students appear to be most interested in peri-urban horticulture and environmental studies, rather than straight agriculture and horticulture courses. One reason is that agriculture and horticulture do not have a good image; negative reporting in media and poor promotion of careers are a couple of contributing factors
- Study fees are high, students may therefore study subjects where the perceived or real pay, once in a job, and career options appear to be better than in agri-food industries
- Universities have a focus on fee paying students, mainly from Asian countries, where an agriculture degree is seen as inferior to for instance medicine, law, engineering and other proposedly smart and lucrative careers
- Students completing relevant degrees with a non-agri-food focus do not hear or read about opportunities they can have in agri-food industries.

3. What all concerned can do to support the growth of an agricultural workforce in Northwest Tasmania - The workforce development and support plan

Based on study findings, the below diagram suggest strategies in five interrelated focus areas. The detailed plan presented in the report suggest tactics under each strategy. They are for consideration by industry, the education and training sector and government. A shared responsibility, collaboration and industry leadership are vital to achieve the required change in workforce attraction, training and retention of quality people.



CONCLUDING COMMENTS

While this report focusses on the northwest region of Tasmania, a state-wide approach to workforce skills and training for agriculture is needed. Most challenges and opportunities are the same in all regions and people do not spend their entire working life in one region.

Improving workforce skills as well as the attraction and retention of people in agriculture, is a shared responsibility involving cooperation between industry and training service providers. Government can play an important supporting role, if industry leads.

1 Introduction

1.1 BACKGROUND

Agriculture is a priority industry for Skills Tasmania, and it is a significant contributor to the state's economy at \$2.4 billion annually. The sector has undergone a significant technological evolution over the past couple of decades, resulting in a very different profile of skills needed for workers and careers available. Advances in technology has not only resulted in different careers in the sector but has also seen an overall decline in some jobs available as the result of increased mechanisation within the sector.

However, there is still a need for skilled employees in the sector, and this need for skilled employees will continue. What hasn't been articulated clearly for workers/job seekers and industry is the wide variety of careers within the sector, what is the projected future demand for jobs in each career, what is the education and training requirements and what are the pathways to those requirements. There are pockets of the industry, e.g. dairy, that have done some of this work and have articulated future job needs, skills and training pathways. Other sectors, such as those that are across a number of commodities, or where small businesses don't have large individual workforce needs but have a collectively large workforce have not clearly articulated the future job requirements, skills needs or training pathways.

Previous projects and research undertaken by Skills Tasmania and in consultation with the sector has developed a methodology for the gathering of the information and development of the workforce plan.

A small pilot project in the Northern Midlands was undertaken in 2018. This approach involved detailed on-farm interviews and engagement with the employers to collect specific information on training and labour needs. This approach was validated by stakeholders at a presentation/workshop held in Campbell Town in late 2018 and was seen as the best way to drive tangible results.

Further to this, Skills Tasmania developed a 'Matrix' which is a template for presenting information.

This project utilised the methodology developed in the Northern Midlands Pilot Project on a wider scale and adapted a matrix model approach developed by Skills Tasmania to show job types and careers and training needs across the various agricultural sectors in groups or 'clusters', together with an indication of future job growth or decline (i.e. demand) in each cluster. A group or cluster refers to types of roles employees have in an agricultural business.

The information in this workforce plan will be used to implement training in areas of both current skills shortages and predicted future skills needs.

1.2 SCOPE

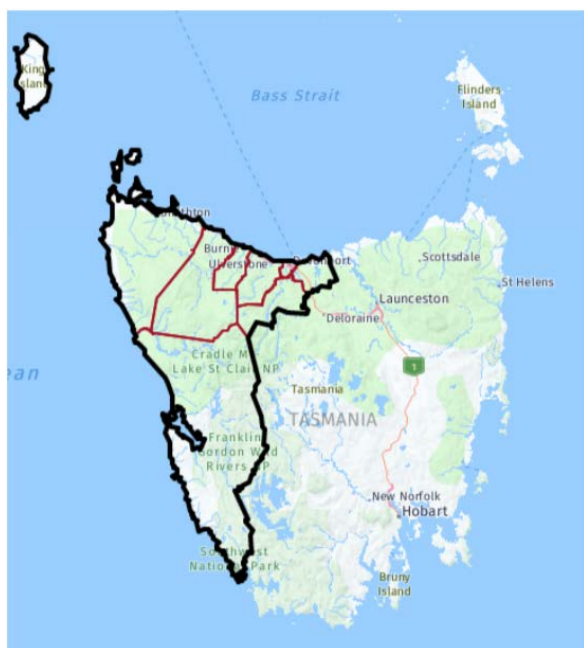
The scope of this Plan includes:

- **Agricultural** - that is the agricultural industry (seafood, aquaculture, and forestry were not in scope)
- **Employers** - to identify current and future skills gaps for businesses currently employing people
- **Supply chain** - including producers, processors, and service providers
- **North West region** - as illustrated in Figure 1-1.

1.3 CONTEXT

THE NATIONAL SITUATION¹

Over the past decades, Australian agriculture has become more market oriented, internationally competitive and consumer focused. This has been driven by product, service and technological innovation throughout the sector. There have also been changes in the structure of industries and the organisation and operation of farm businesses. Large farms (with receipts over \$1 million per year in real terms) have increased from around 3% to around 16% of the farm population over the past 4 decades, while their share of output has increased from 25% to around 60% of the value of output (Jackson, Zammit & Hatfield-Dodds 2018²).



Changes in the structure and organisation of the industry, coupled with technological innovation, have flow-on consequences for the agricultural workforce, both in terms of the number of people that work in the industry and the skills they need to have. The nature of work has changed, with increased demand for skilled farm labour capable of operating sophisticated technologies. At the same time, business owners need more advanced management skills to manage larger, more complex businesses.

At the same time these changes in the agriculture industry have occurred there have been fundamental changes in Australian society. These changes include:

- General migration from rural and regional areas, where most primary industries businesses are located, to urban areas (Joyce 2019³), decreasing the potential labour pool in some regions

Figure 1-1: The North West region of Tasmania

- The continued aging of the workforce, which puts downward pressure on domestic labour supply (Brown & Guttman 2017⁴), which increases competition for available labour
- The growth of the services economy (Adeney 2018⁵), which provides attractive and dynamic job opportunities in competition to the agricultural sector.

Workplace conditions, including wage rates, leave entitlements, opportunities for career progression and other management practices play a critical role in attracting and retaining workers to the agriculture sector. Farm employers and employees both report uncompetitive wages as a factor influencing the agriculture industries ability to attract and retain employees (Nettle 2015). In addition, some agriculture service and supply chain professions are also unattractive or are perceived to be unattractive. Relatively high rates of turnover and exit of staff in the agriculture industry are a result.

¹ Citation from: Department of Agriculture, Water and the Environment 2020, National Agricultural Workforce Strategy literature review, Canberra, February. CC BY 4.0. ISBN 978-1-76003-259-3. This publication is available at haveyoursay.agriculture.gov.au/national-agricultural-workforce-strategy

² Jackson, T, Zammit, K & Hattfield-Dodds, S 2018, Snapshot of Australian Agriculture, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), accessed 9 January 2020

³ Joyce, S 2019, Strengthening Skills: Expert review of Australia's Vocational Education and Training System, Department of the Prime Minister and Cabinet, Canberra

⁴ Brown, A & Guttman, R 2017, Ageing and Labour Supply in Advanced Economies, Reserve Bank of Australia Bulletin, December 2017

⁵ Adeney, R 2018, Structural Change in the Australian Economy, Reserve Bank of Australia Bulletin, March 2018, The Reserve Bank, Melbourne

Small agricultural businesses face greater challenges in this area due to an inability to offer internal career development pathways or training.

Some agricultural jobs are inherently 'low quality'. In the longer term, innovations such as mechanisation could change these occupations, making them more attractive to the domestic workforce. In the near-term, temporary migrant workers will continue to make up the shortfall that exists in the supply of labour from the domestic market.

New generations of workers are likely to have new expectations on desirable work environments. If the industry does not modernise human resource management arrangements to accommodate these expectations, it may find itself further disadvantaged relative to other industries that do.

Industry groups report widely held concerns about the supply of skilled, semi-skilled and low skilled workers to meet industry's needs. A number of agribusiness and related industries report significant challenges in recruiting the staff they require. These existing workforce challenges fuel concerns about potential greater future challenges if socio-economic and demographic trends continue.

On a national level, some agricultural industries, e.g. dairy, via Dairy Australia, have reviewed and articulated future job and skills needs, and are implementing training pathways and other initiatives to attract, train, and maintain people in the industry. Other sectors, especially some that operate across a number of commodities, or where individual businesses often do not employ a large workforce, but they collectively, as an industry, are large employers, e.g. horticulture, are still in the process of defining future job requirements, skills needs and training/career pathways as well as initiatives to attract and retain people at all levels of training.

In 2019, The Australian Government set up the National Agricultural Labour Advisory Committee (NALAC). The Committee's task is to help progress the National Agricultural Workforce Strategy and to advise the government on farm labour and agricultural sector workforce challenges.

The Australian Government is also investing \$50.6 million to trial Industry Training Hubs in ten regions across Australia⁶. The first Hub in Burnie, North West Tasmania, has commenced working in March 2020.

STATE

The Tasmanian Government, through Skills Tasmania, invests in training and workforce development. These investments need to be responsive to the needs of employers, industry, and the community so that they support a skilled and productive workforce and also contribute to economic and social progress.

Six priority areas were identified for the Tasmanian Training and Workforce Development system in the period 2018-2021 (State of Tasmania, 2018)⁷:

- Invest in training and workforce development activities in priority industries to drive economic growth and employment
- Facilitate a high quality, responsive, and flexible training system
- Support TasTAFE to be a high quality, contemporary, and responsive public provider
- Support more apprenticeships and traineeships
- Support all Tasmanians to access training and gain skills to participate in the workforce and community
- Promote vocational pathways in a modern economy.

⁶ <https://www.employment.gov.au/ITH>

⁷ https://www.skills.tas.gov.au/__data/assets/pdf_file/0014/201047/Ministerial_Priorities_for_Training_and_Workforce_Development_2018-21.pdf

These priorities aim to deliver a more efficient and competitive training system, with a strong focus on producing the skills needed by the current labour market, and on investing in skills that will drive economic growth.

Other initiatives/facilities relevant to agriculture and therefore this Plan, include:

- 'Revitalising our School Farms' - an initiative of the Department of Education that involves significant capital upgrades and the appointment of a dedicated agricultural teacher at each school farm in Tasmania
- 'Freer Farm' - a training facility in Burnie that is owned by the Tasmanian Government and operated by TasTAFE. Training offered at Freer Farm can be informed based on this Plan.

The State Government's Vision 2050 has an objective to grow the annual farm-gate value of agriculture in Tasmania 10-fold to \$10b by 2050. This is an ambitious target and will require a range of components for it to be achieved - including a skilled workforce.

Therefore, the Workforce Plan for the North West will help to make a contribution to achieving the 2050 vision. Without a skilled workforce, the 2050 target is unlikely to be achieved.

THE NORTH WEST REGION

The North-West agricultural landscape is very diverse; with vegetables, pyrethrum, poppies, horticulture, abattoirs, numerous farming businesses covering beef and lamb production, wool growing, and vegetable and dairy operations. Figure 1-2 shows the broad land use in the North West Region. Farming businesses in the region are supported by a large agricultural service sector of consultants, machinery suppliers, irrigation specialist's, machinery contractors, rural sales, and agronomists. Processing and packing/ marketing companies are closely linked to producers, especially via their field officers. The Cradle Coast NRM body supports landholders in looking after their soils, water resources, and biodiversity.

Agriculture is a significant industry in the North West region, it was valued at \$566 million for 2015-16 and this represented 38% of Tasmanian agriculture by value (Value of Agricultural Commodities Produced, Australia, 2015-16. Cat. No. 7503.0.). Substantial investment has taken place in irrigation through the Tasmanian Irrigation Schemes and is now continuing via the roll out of Tranche Three. In addition, we know from our work in Tasmanian agriculture that many businesses are investing in machinery and infrastructure and/or would like to grow their businesses. They are telling us that labour shortages and a lack of staff to take over management tasks is holding them back. Also, agricultural technology is changing rapidly. This means that the workforce on all levels requires different skills to those used in the past. It is challenging for educators and training providers to keep up with all the technological developments and having access to the relevant, often expensive equipment available for training.

This workforce development plan is one output from the '*North-West Tasmanian Job Ready Generation Package*'. The Initiative will deliver eight outputs for agriculture, mining and other sectors in the north west region. It encompasses schools, agriculture, manufacturing, and school-based apprenticeships. Outputs relevant to agriculture include:

- Development of learning technology resources, including online materials to support training outcomes for the agricultural sector; as well as
- This workforce development plan for the agricultural sector; which will inform
- Training for up to 150 workers over two years to meet the identified skills needs in the agriculture sector.

This Workforce Plan will identify skills needs of the agricultural sector and will contribute to meeting the existing and emerging skills needs of the North West region. This plan will inform and guide provision of training, workforce planning, and job matching in the region.

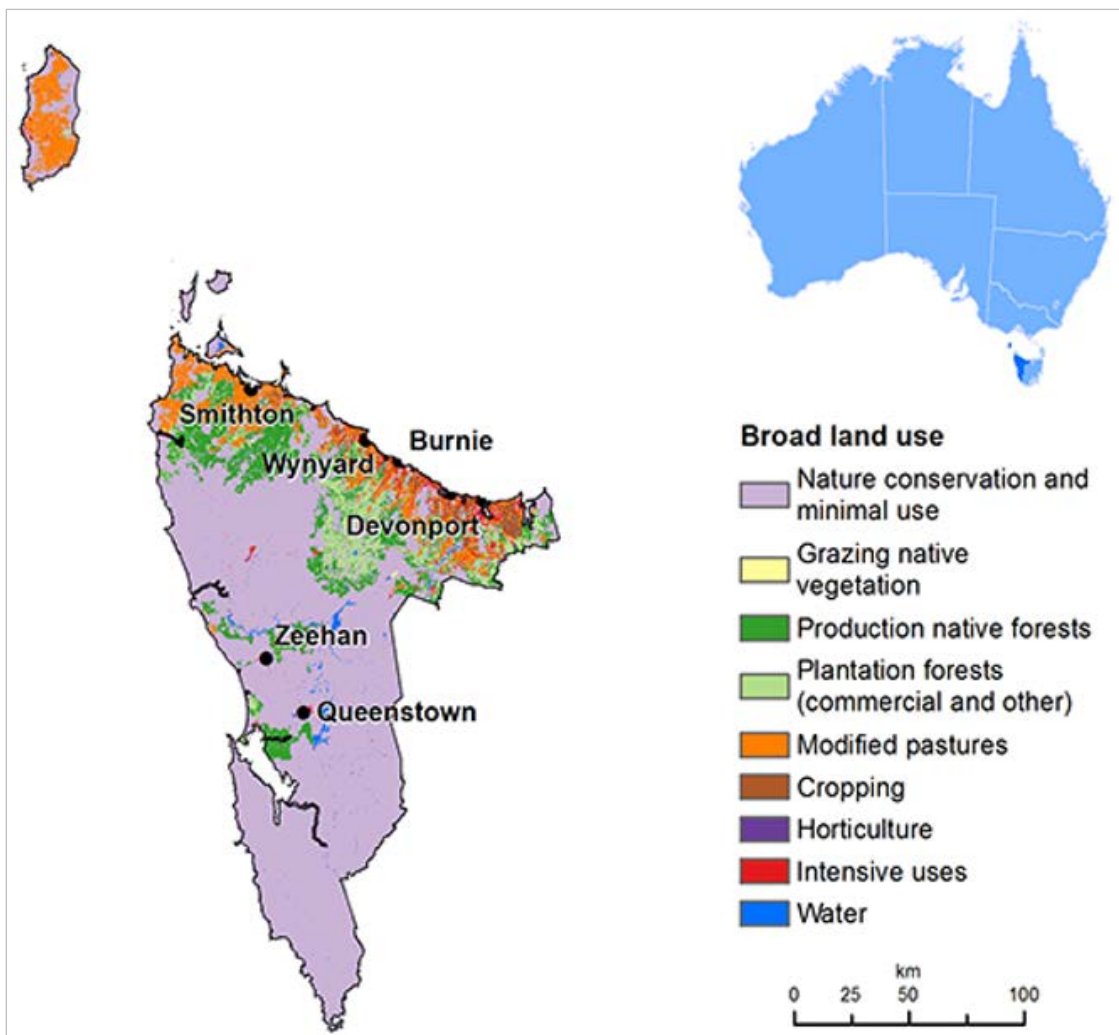


Figure 1-2: Broad land use in the North West region⁸

Agricultural land in the West and North West region occupies 3,670 square kilometres, or 16 per cent of the region⁹. Table 1-1 illustrates the number of farms in the region using the Australian Bureau of Statistics (ABS) industry classification. Pasture based enterprises, beef and cattle, dominate the overall agriculture sector based on the number of farms and proportion of land use in the region as well as value of production (Figure 1-3). Vegetable production is also important with about 55% of the state’s vegetable production located in the region.

⁸ Catchment scale land use of Australia - Update December 2018; <https://www.agriculture.gov.au/abares/aclump/land-use/catchment-scale-land-use-of-australia-update-december-2018>

⁹ <https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/tas-west#regional-overview>

In the following, the term 'crop' also refers to pasture as a 'crop'.

Table 1-1: Number of farms, by industry classification, North West region, 2017–18¹⁰

INDUSTRY CLASSIFICATION (MAIN ENTERPRISE)	WEST / NORTH WEST REGION		TASMANIA	
	Number of farms	% of Region	Number of farms	Contribution of region to state total %
Beef Cattle Farming (Specialised)	251	35.0	518	48.5
Dairy Cattle Farming	224	31.2	374	59.8
Vegetable Growing (Outdoors)	137	19.1	245	55.8
Sheep-Beef Cattle Farming	22	3.0	178	12.3
Another Crop Growing	17	2.3	46	36
Sheep Farming (Specialised)	15	2.1	313	4.7
Horse Farming	12	1.7	31	38.5
Other	41	5.7	274	14.9
Total agriculture	718	100	1,979	36.3

While the ABS separates industries by the main enterprise within a farming business, many farms in North West Tasmania produce more than one crop.

The main production systems and enterprises in the northwest region are:

- Dairy based systems (modified pastures) - some dairy farmers also grow annual crops on some areas of their farm such as fodder crops, vegetables, poppies, or grains
- Beef or sheep based systems (modified pastures) - some beef and sheep producers also grow fodder crops on some areas of their farm, some graziers focus on beef or sheep only, others produce both, and many also have some areas on their farms dedicated to cropping grains or poppies
- Vegetable production systems (horticulture) - growing a range of vegetable crops (e.g. carrots, potatoes, brassica crops, onions) in rotation with some of the following; poppies, pyrethrum, grains (cropping); many vegetable producers also graze beef or sheep; some traditional vegetable farms in the region have leased land to berry producers (especially Costa Group) in recent years
- Fruit production systems (horticulture) - mostly highly specialised enterprises producing on one or two fruit species of either berries (strawberries, raspberries, blueberries), temperate tree fruit (apples, cherries), or just wine grapes.

¹⁰ Note: Estimated value of agricultural operations \$40,000 or more. Industries that constitute less than 1 per cent of the region's industry are not shown. nec not elsewhere classified. Source: Australian Bureau of Statistics 2019

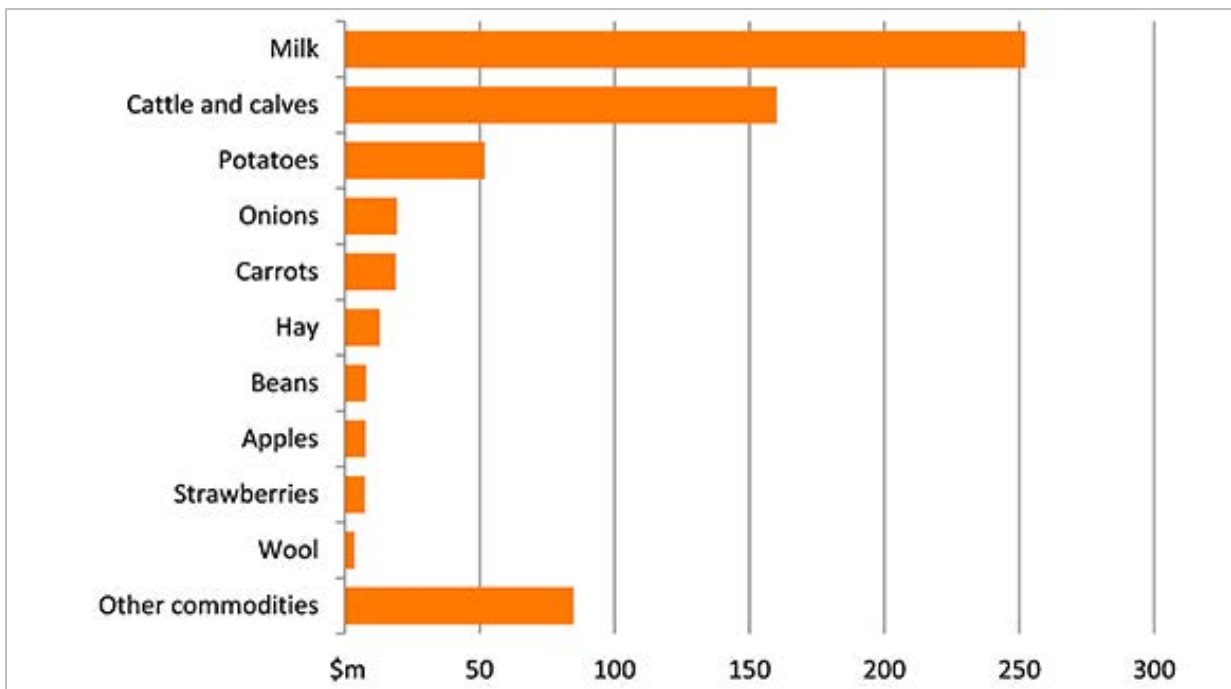


Figure 1-3: Value of agricultural production, West and North West region, 2017–18¹¹

¹¹ Note: The graph shows only data published by the ABS. Some values were not published by the ABS to ensure confidentiality. The "Other commodities" category includes the total value of commodities not published as well as those with small values.

Source: Australian Bureau of Statistics, cat. no. 7503.0, Value of agricultural commodities produced, Australia 2019

2 Approach and methodology

2.1 KEY QUESTIONS

The following key questions were addressed through the project:

1. What are the employment and career opportunities in the agricultural sector in North West Tasmania?
2. What are the skill and knowledge requirements of those opportunities?
3. What can industry, government, and education and training providers do to support the growth of a highly valued agricultural workshop in the North West region?

These questions were used to inform interview design and the key components of the Plan.

2.2 A STAGED APPROACH

The project was delivered in a staged approach:

1. Phase One: Project planning
 - Finalise project plan
 - Develop plan for interviews
2. Phase Two: Interviews
 - Undertake one-on-one interviews
3. Phase Three: Analysis and Reporting
 - Data analysis
 - Workshop with Skills Tasmania
 - Consultation with training and education providers
 - Mapping of skill shortages against educational pathways
 - Reporting (this Plan).

Each phase is described below.

2.3 PHASE ONE: PROJECT PLANNING

A final project plan was developed in collaboration with Skills Tasmania. This phase encompassed the development of:

- A project **information flyer** to inform stakeholders (Appendix 1)
- A **regional profile** including 'value of production' (by agricultural commodity, and LGA) and 'number of businesses' (also by agricultural commodity and LGA), which was used to determine a targeted number of interviews by LGA and sector as well as service providers (as Appendix 2)
- A **survey tool** to capture the current and future skills needs of the identified agricultural sector employers across the region and sectors of varying size and structure; the regional profile used to determine interview targets and numbers is included; the interview guide is located in Appendix 3
- A **schedule of interviews** - that ensured a cross-section of all relevant industry sub-sectors, business sizes and regions within the North West (Appendix 4)
- A **project risk assessment**.

In addition, relevant reports were reviewed, including the University of Tasmania's TasAgFuture project report, and industry plans (e.g. Strategic Plans) were reviewed that deal with skills, education, and training needs and activities.

2.4 PHASE TWO: INTERVIEWS AND CONSULTATION

Interviews

110 interviews were conducted over the period November 2019 to January 2020. Interviews were conducted by four key interviewers to ensure consistency. One person was allocated to look after interview scheduling.

A majority (65%) of interviews were producers and the balance were processors, contractors, and service providers. Refer to Table 3-1 for further detail on the types and numbers of businesses included in the survey. The target audience was employers. Therefore, when contacting potential interviewees, some were not progressed as they did not employ staff. These were family farm businesses and often beef producers.

Five labour hire companies were also interviewed because this is an important component of employment in the region, e.g. fruit pickers.

Interviews were conducted in-person with the exception of a few who preferred a phone or video-conference interview.

All data was collated via SurveyMonkey.

Consultation

Consultation took place with representatives from:

- University of Tasmania to understand their current training portfolio and future plans
- Tas TAFE to understand their current training portfolio, future plans and opportunities as well as challenges with the delivery of training for agriculture and horticulture
- Dairy Tas to understand the approach Dairy Australia and Dairy Tas are taking to facilitate training for dairy producers
- Skills Impact to understand the development of National Certified Courses and Training Packages as well as findings from their recent review of training needs in agriculture and horticulture
- Tasmanian Agricultural Productivity Groups
- The North West Training Hub Coordinator to understand how the Hub can assist in linking industry and training providers
- Tasmanian Agricultural Productivity Groups (TFGA) to understand their activities aimed at supporting agriculture education in schools and promoting the industry to young people.

2.5 PHASE THREE: ANALYSIS AND REPORTING

Team meeting

The interview team met to discuss key insights from the interviews. This was useful to identify the main messages and main opportunities and issues that need to be addressed in the Plan, before delving into the data.

Analysis of interview data

Interview data was analysed and tabulated using Microsoft Excel. Quantitative data was tabulated and qualitative data was analysed using thematic coding techniques.

Data was filtered as appropriate. Data from labour hire companies was excluded from some questions e.g. number of employees per business, to avoid double counting, as the labour hire staff were covered in the employer interviews.

Workshop

A summary of preliminary findings was used as the foundation of a workshop with Skills Tasmania. The workshop addressed the following topics/questions:

- Current situation (based on outline of data from interviews)
- Desired outcomes i.e. the new situation (what is the overall goal of the Plan, including short-, medium-, and long-term outcomes?)
- Gaps between the current and new situation (these were grouped and allocated to short-, medium-, and long-term outcomes)
- Practical actions (preliminary actions).

Desktop study

The desktop study provided background information on education and training needs and challenges and how they may be overcome. It provided context for the discussion of findings.

Mapping

Survey findings and consultations with training providers were used to describe and 'map' the current and projected workforce and training needs against training opportunities that are available and required to meet identified needs.

Reporting

A Draft Plan was presented to Skills Tasmania and feedback incorporated into this Final Plan.

3 Interview demographics

3.1 BUSINESS CATEGORIES AND BUSINESS SIZES

Table 3-1 Provides a breakdown of interviews by employer category.

Table 3-1: Number of interviews by employer category

INTERVIEWS PER EMPLOYER CATEGORY	NUMBER	%
Producer	71	65
Processor	8	7
Contractor	6	5
Professional Services (Agronomist, Ag consultant)	5	5
Labour Hire Company	5	4
Sales (wholesale, retail)	3	3
Technical Services (IT, irrigation, farm equipment)	2	2
Other	10	9
Total	110	100

The 'Other' category covers:

- Employment Agency funded by Federal Government to work with people on Centrelink only
- Industry training - network provider
- Machinery sales and services
- Producer and contractor
- Producer and processor
- Rural business, input sales and services (e.g. agronomy)
- Equipment manufacturer and sales, technical services
- Professional services.

Figure 3-1 provides an overview of business size by turnover. The majority of businesses included in the survey had a turnover of \$1 - \$3 million (36%); 26% had a turnover of above \$5 million while 16% reported a turnover of under \$1 million.

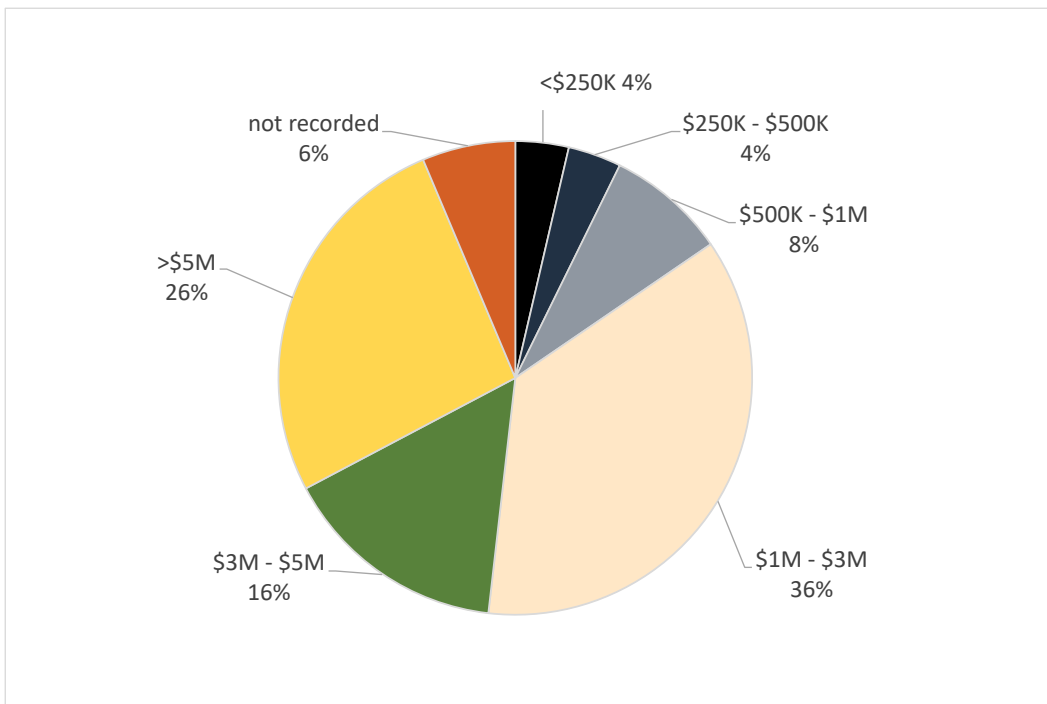


Figure 3-1: Interview respondents by turnover

Table 3-2 provides an overview of employee numbers for all types of roles and all businesses interviewed. The Australian Bureau of Statistics (ABS) uses the following definition of business size based on the number of persons employed¹²:

- A micro-business employs between 0-4 persons
- A small business, between 5-19 persons
- A medium business, between 20 and 199 persons; and
- A large business employs 200 or more persons.

The data shows that the majority (60.9%) of businesses interviewed were small, employing less than 20 people; 39% had less than 10 employees. Only 6.3% of businesses were in the 'large' category. Dairy farmers and other livestock operations as well as some service providers and contractors have relatively low staff numbers. Some of them classify as micro businesses. The large scale employers are processors, packers and berry farms. They have a large seasonal workforce. Agribusinesses and farming operations that require hand harvesting and or packing make up the majority of medium size employers.

Table 3-2: Employee numbers for all type of businesses interviewed

BUSINESS SIZE	NUMBER OF INTERVIEWS	%
Large (200 or more employees)	7	6%
Medium (20-199 employees)	36	33%
Small (5-19 employees) and Micro (0-4 employees)	67	61%

¹² Gilfillan, G. (2015). Definitions and data sources for small business in Australia: a quick guide. Parliamentary Library Research Paper Series 2015-2016

ABS data for agricultural, forestry and fishing businesses (primary producers) in north west Tasmania, indicates that 68% of businesses are non-employing. A majority (94%) of employers employ less than 20 persons (refer to regional profile in Appendix 2).

We interviewed a greater proportion of medium sized employers compared to the ABS data for primary producers. This was because the study was focussed on employers and also included processors and service providers which can be large scale employers.

3.2 BUSINESS LOCATIONS

Table 3-3 provides an overview of the number of interviews conducted by local government area (LGA). The data shows the number of producer interviews compared to the total number of interviews (all employer categories). The percentage figure indicates the proportion of total interviews in each LGA. About half of the businesses interviewed were in the Circular Head, Central Coast and Waratah-Wynyard LGAs.

There were 16 interviewees with both, multiple enterprise categories and/or located in multiple municipal areas. Thus, the businesses in Table 3-3 total 150, while the number of interviews conducted was 110.

Table 3-3: Number of interviews by local council area (LGA) indicating the number of producers interviewed and employers of all categories by number and proportion

LGA	PRODUCERS ONLY	ALL EMPLOYER CATEGORIES*	
	NUMBER OF BUSINESSES INTERVIEWED		% PER LGA
Circular Head (CH)	18	32	21
Central Coast (CC)	13	23	16
Waratah-Wynyard (WW)	15	23	14
Latrobe (L)	11	22	16
Devonport (D)	4	20	13
Burnie (B)	1	12	8
Kentish (K)	7	12	8
King Island (KI)	2	5	3
West Coast (WC)	0	1	1
Total	71	150*	100

Appendix 4 illustrates the spatial distribution of interviews by LGA.

Table 3-4 gives an overview of the number of businesses interviewed by industry category and local government area (LGA). The 'Other' category includes processors, contractors, professional and technical services, labour hire companies, and sales (wholesale, retail of inputs/consumables). The actual interview split generally matched that of the proposed interviews. Refer Appendix 2 for the proposed interview split.

Table 3-4: Number of businesses interviewed, by industry category and LGA.

(Refer to Table 3-3 above for LGA abbreviations)

MAIN INDUSTRY CATEGORY	B	CC	CH	D	K	KI	L	WW	WC	TOTAL
Dairy	5	7	15	3	2	1	1	10		44
Vegetables	3	8	5	5	3		7	7		38
Other (not producer)	3	3	2	7	4	1	4	2	1	27
Sheep, Beef Cattle & Grain			8	1		3	1			13
Mixed Farming		1	2		2		4	1		10
Fruit		1		3			2			6
Eggs & Poultry	1			1	1		1	1		5
Extractive Crops		2					1			3
Nurseries & Cut Flowers							1	2		3
Other Livestock (pigs)		1								1
TOTAL	12	23	32	20	12	5	22	23	1	150*

* This includes 16 interviewees with both, multiple enterprise categories and/or located in multiple municipal areas. Therefore, the number of businesses totals 150, while 110 interviews were conducted.

Figure 1-3, in the introduction, showed the economic importance of the dairy industry to North West Tasmania. In the survey, a majority of respondents were dairy farmers and from all council areas, apart from West Coast as per Table 3-4. The Circular Head and Waratah/Wynyard LGAs stand out as the key dairy production areas, followed by Central Coast and Burnie. Several dairy producers operated across two or three council areas. Dairy processors are located in the Circular Head, Waratah-Wynyard, Burnie and Latrobe LGAs. Fifteen of the dairy producers interviewed (68%) listed other enterprises for their business: hay and fodder (8), beef cattle (7), vegetables and extractive crops (2), and other (3).

Vegetable production predominantly occurs in the Central Coast, Latrobe, Devonport, Circular Head, and Waratah-Wynyard LGAs, where soils are favourable. Vegetable processors and packers are mainly in the Devonport and Circular Head LGAs.

3.3 EMPLOYEE AND EMPLOYMENT CHARACTERISTICS

Age groups and gender

Figure 3-2 illustrates the split between numbers of male and female employees by age group for three employer categories and for all interviewees. Overall, the age group of 20-29 year old employees dominated the workforce, especially on farms, closely followed by the group of 30-39 year old people, which was the dominant age group within labour hire companies. The youngest (<20) and oldest (60+) age groups provided the lowest employee numbers in each category. Processors employed about the same number of people from the four groups from 20 to 59 years of age. Overall, female employees made up about half of the workforce of the 20-29 year old group. This changed markedly once the employee age was above 30, presumably due to the fact that women still are the main carers for children. The proportion of women in the workforce increased again for ages above 40, once childcare and work can coexist more easily.

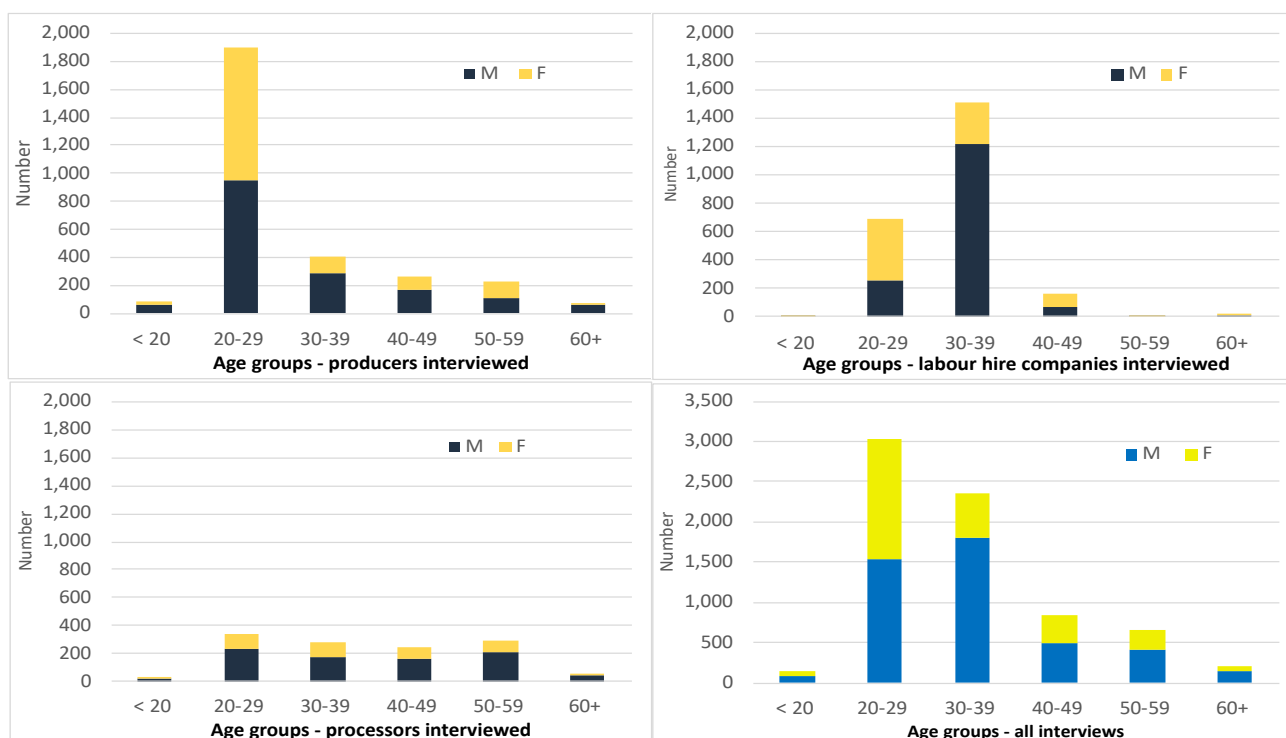


Figure 3-2: Split between male and female employees by age group for three employer categories and all interviewees

3.4 TYPE OF EMPLOYMENT AND JOB ROLES

Producers, processors, and labour hire companies have the highest number of employees of all employment types (Table 3-5). Numbers of seasonal and casual employees are particularly high, especially for producers. Producers and processors are the main clients for labour hire companies as a source of seasonal labour. According to interview responses, about 40-50% of labour hire staff are locals. Many interviewees said that they would favour locals that are willing and able to do the work. However, there are not enough people available with the required attributes available, especially in peak times. Seasonal employment can be challenging for people who need work. They are required to put in long hours during the season and have no work in the off-season. Therefore, access to seasonal labour via labour hire companies that can provide workers from overseas are essential for agriculture. Companies requiring a large, 'hands on' workforce have a greater need for seasonal workers, especially for harvesting (e.g. berry fruit, vegetables), than smaller farming operations.

Labour hire companies are mainly used for on farm labour and during peak times, e.g. harvest, and to a lesser degree for packing, especially in the berry industry, but also for vegetables. Employers also use labour hire when positions cannot be filled on dairy farms, or for pest, disease, and weed control. Some businesses, especially processors, use labour hire companies to fill positions in all aspects of their operation, e.g. administration, maintenance, transport, and processing factory.

Casual employees are important for contractors while professional and technical services and sales predominantly employ permanent staff. Producers engage the greatest proportion of seasonal and casual workers. Processors employ the highest number of permanent, full time staff.

Table 3-5: Employee numbers by employment type and employer category – all sectors combined - for businesses interviewed

EMPLOYMENT TYPE	EMPLOYER CATEGORY							
	CONTRACTOR	LABOUR HIRE	PROCESSOR	PRODUCER	PROF. SERVICE	TECH. SERVICE	SALES	TOTAL
Permanent - full time	42	19	907	680	69	23	23	1763
Permanent - part time	0	1	13	208	11	6	10	249
Fixed term - full time	0	0	63	2	0	0	0	65
Fixed term - part time	0	0	0	7	0	0	0	7
Casual employees	34	1	488	1119	5	0	6	1653
Labour hire/seasonal	2	1458	135	1208	0	0	2	2805
Apprentice/trainee	0	0	25	24	0	0	0	49
Owners not on the payroll	2	0	0	42	0	1	2	47
Family members not on the payroll	1	0	0	13	0	0	0	14
other	0	0	0	3	5	0	0	8
Total number	81	1479	1631	3306	90	30	43	6660
FTE	50	120	892	736	77	18	11	1904

Note that at least some of the labour hire staff are likely to be included twice, i.e. in the labour hire and also producer employer category. Survey data did not allow for identifying the extent of potential overlap.

Figure 3-3 illustrates the proportion of employees by type for all employer categories combined. 0% in Figure 3-3 means that the percentage of that type of employment was below 0.3%. Seasonal labour, sourced

locally or via labour hire, account for 42% of employment and casual employees make up 25% of the total. Permanent full time (26%) and permanent part time employees (4%) together make up 30% of the workforce.

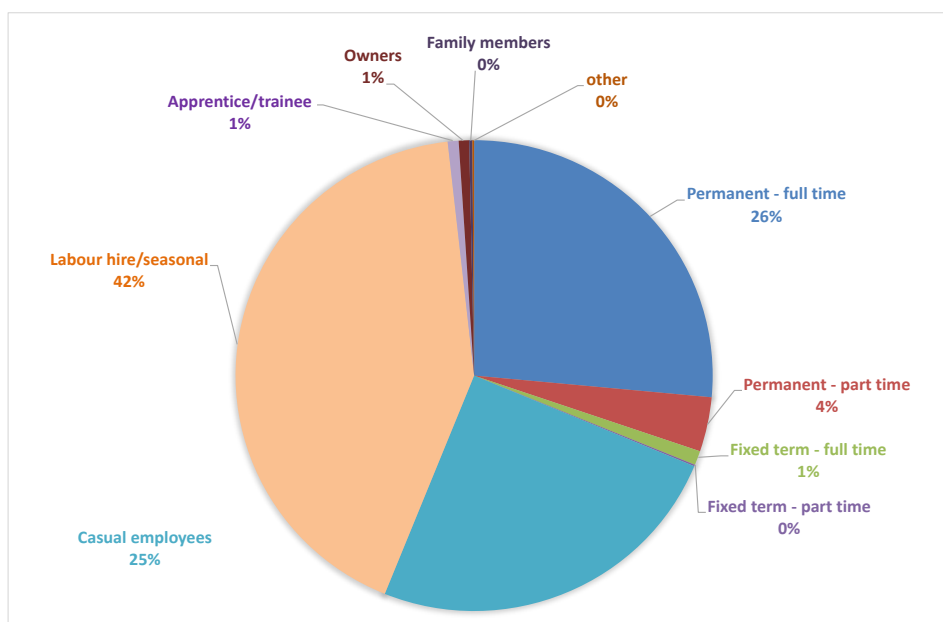


Figure 3-3: Employment types– all employer categories and sectors combined

The split of job roles (Table 3-6) matches the employment types in Table 3-5 and Figure 3-3; the majority of people employed in agriculture in the region are operational/hands-on. The majority of operational employees are employed for the main production season for jobs related to harvest and packing/processing in horticulture.

Table 3-6: Employee number fulfilling different employee roles for all types of businesses interviewed (110 interviews)

EMPLOYEE ROLE	NUMBER OF EMPLOYEES FULFILLING ROLE	%	COMMENT
Operational (mainly seasonal)	4044	58.9	Harvesting, packing/general factory staff
Operational (mainly casual, some permanent)	1568	22.9	Operative staff, farm & factory workers
Management & supervisory	507	7.4	There were double the number of managers compared to supervisors
Maintenance/technical	346	5.0	Trades/engineering
Office/admin/business support	120	1.7	Includes QA
Professional services/ agronomists employed in-house	119	1.7	Nearly 50% are agronomists, field officers
Other roles	80	1.2	Speciality roles, e.g. in processing or hospitality attached to production business
Human Resources & WH&S	60	0.9	About 50:50 split between both functions

EMPLOYEE ROLE	NUMBER OF EMPLOYEES FULFILLING ROLE	%	COMMENT
Marketing, sales	19	0.3	Mainly marketing mentioned
Total number	6860	100.0	

Table 3-6 provides an overview of the number of employees fulfilling different roles, independent of employer and employment type, for all businesses interviewed. Some interviewees allocated more than one employee role for one person, especially in smaller scale businesses. This is the reason why the 'total number' is greater than the actual number of employees in Table 3-5.

Trades mentioned as required mainly were electrician, air conditioning and refrigeration mechanic, general mechanic, fitter/turner, welder.

The fruit and vegetable sectors have the largest seasonal workforce requirements mainly for harvesting (nearly 2500) and also for packing, weeding, and other labour-intensive production management tasks.

4 Use of contractors and professional services

4.1 CONTRACTORS

Figure 4-1 illustrates the projected use of contractors for on-farm production related jobs, including cartage. Producers are generally using more than one contractor on their farm. The graph shows that the greatest use of these on-farm of contractors is for harvesting, making hay and silage, spraying, sowing, and soil cultivation. Contractors are also used frequently for planting and cartage. Most producers expected that the use of contractors would be static over the coming five years (Figure 4-1, Figure 4-2). The majority of contracting work involves tractor driver skills. Producers frequently commented on the difficulty of finding well trained operators for these jobs, especially in areas that involve precision agriculture applications.

The main comments about using contractors on farm now and in future are reflected by the below citations:

- 'We don't have to buy and maintain the equipment'
- 'Contractors come self-motivated. Employees need motivating. However, we now have highly motivated staff, which isn't easy to find'
- 'Would like to use more (contractors) because they do not need to be overseen like employees. We are too time poor as it is.'
- '[Use of contractors will] Likely stay the same, although it depends on the skills of staff. If we had staff who can/want to do this work, we would buy the machinery to assist them'.

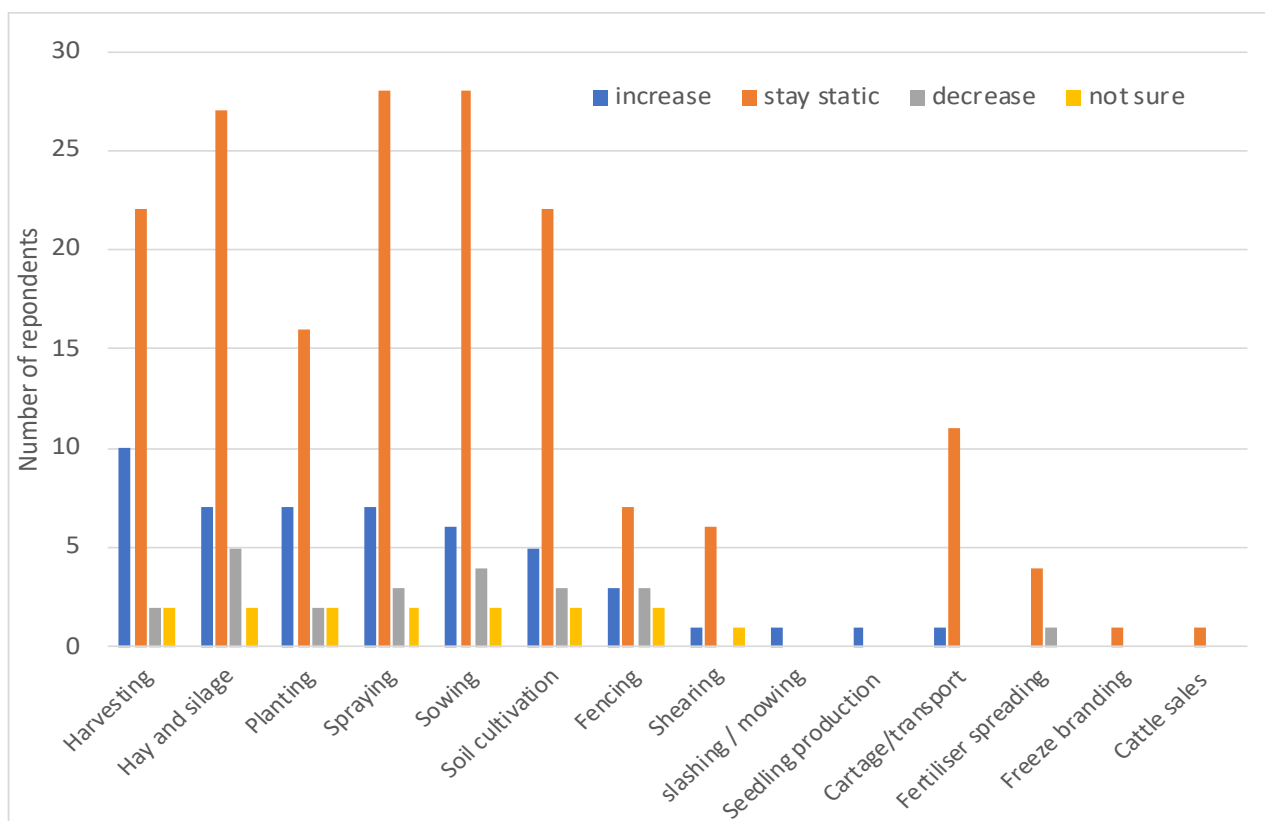


Figure 4-1: Projection of use of contractors for production related work on farms

Apart from contracting farm/production work, producers and processors contract a wide variety of tradespeople such as: builders, plumbers, irrigation installation and repairs technicians, electricians, air conditioning and refrigeration technicians, mechanics, fitters & turners, welders, heavy equipment operators for installations, plant maintenance, general maintenance, construction, earth works, and drainage works. Processors also contract people for ground maintenance and security.

Figure 4-2 shows that the majority of contracting work is for production related work (Total Farm) as compared to using tradespeople for contract work on farm (Trades & Machinery); refer to Figure 4-1 above for a breakdown of type of jobs done for producers by contractors. A majority (68%) of those who use contractors, expect their use to stay the same over the coming five years. 18% of businesses who use contractors, expect an increase, and a minority (8%) expect a decrease. This suggests that overall, there is an expected increase in the use of contractors. However, the magnitude of this increase or how many jobs are involved is not clear.

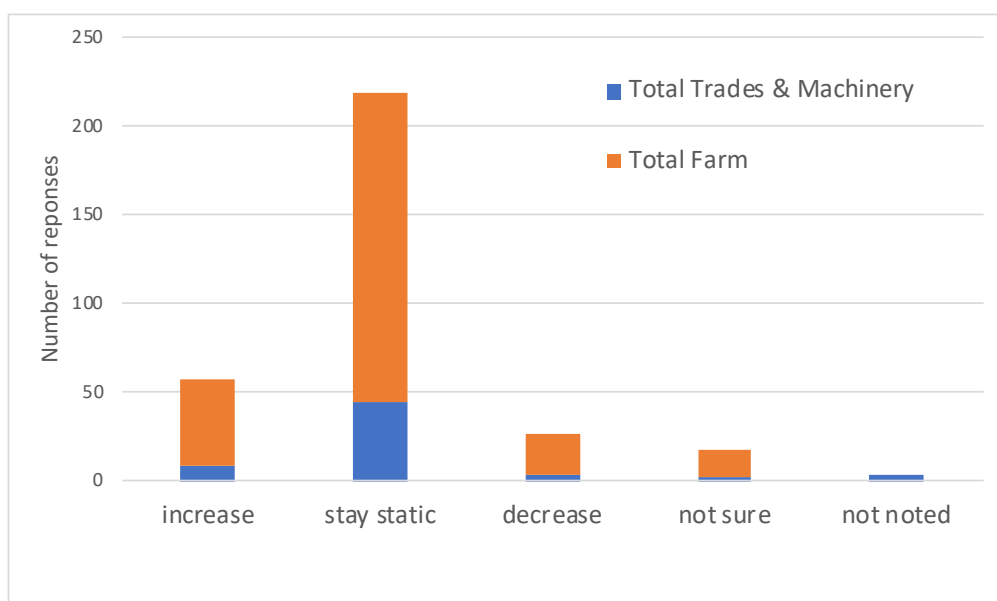


Figure 4-2: Projection of use of contractors for production related and other work

4.2 PROFESSIONAL SERVICES

Interviewees were asked to describe the professional services used by their business. The most commonly cited types of services, or professionals were: accountants (mainly for tax compliance), agronomists, agricultural consultants (including business advice), animal health (mainly veterinary services), legal and human resource management (Table 4-1).

The high proportion who mentioned accountants is not surprising, given tax compliance requirements. Based on our experience this is also the case in other industries.

The data highlights the importance of agronomy, agricultural consulting and veterinary services. Even larger scale businesses who have in-house agronomists or crop/livestock managers, still rely on specialist agronomy services for professional support.

Note that the data was in response to an open question, therefore, the responses do not necessarily provide the actual number of businesses who used each type of service; but gives a good indication of the level of use and thus, their importance. Some important services are accessed via a third party e.g. lab testing was only mentioned by three, however producers often access this type of service via an agronomist.

The high demand for agronomy and production advice indicates that there is a need for targeted training in this area. Since most agricultural colleges were incorporated into universities, specific agronomy training dwindled. Most agronomists have completed general agriculture or horticulture training to diploma or tertiary level and receive training on the job/in-house (mentoring, product focused training).

Producers mentioned in interviews that many agronomists, who are new to the job, are lacking technical and practical knowledge. Skills Impact is in the process of finalising a new Cert IV Agronomy training package to fill an identified gap (by Skills Impact).

Table 4-1: Use of professional services[#]

TYPE OF PROFESSIONAL SERVICES	NO OF INTERVIEWEES WHO MENTIONED USING THE TYPE OF SERVICE [#]
Accounting, book-keeping and business (mainly for tax compliance)	77
Agronomy	54
Agricultural consultants (included business advice)	25
Animal health (mainly veterinary services)	14
Legal	13
HR/WHS	10
IT / Precision farming	8
Technical trades (e.g. engineering, electrical)	8
Labour hire/ employment agencies	6
Lab testing	3
Compliance	3
NRM, training, marketing, counselling, water resources, insurance, event management, stock agent, wastewater	Each mentioned by fewer than 3 interviewees

[#] Note that this was in response to an open question, therefore, the responses do not necessarily provide the number of businesses who used each type of service; it provides the ones that were mentioned).

5 Skills and training needs

This section presents survey findings on skills and attributes employees require now and in future.

5.1 CURRENT AND PROJECTED JOB ROLES

Table 5-1 provides information on how respondents rated the degree of difficulty in filling certain job roles. Some mentioned more than one role that was difficult to fill. Generally, ratings of 'hard' and 'very hard' were more frequent than 'easy' or 'very easy'. Roles that were more difficult to fill were 'maintenance / trades', 'professional services', and 'operational / supervisory'.

'General farm labour' was on average not difficult to fill. However, 'operational / supervisory' roles were difficult to fill. This may suggest a skills gap at mid-level and supervisory level operational jobs.

Hiring pickers and packers was considered relatively easy on average because they were mainly sourced via labour hire companies. The following type of comment was frequently made: "Good staff are hard to get unless you know people or have built connections in some way".

The degree of difficulty in filling management roles does not appear in Table 5-1 because answers were mainly by managers and owner/managers; and/or they had not tried to fill management roles.

Table 5-1: Degree of difficulty in filling job roles (clusters) with 'the right people'

ROLES	VERY HARD	HARD	NEUTRAL	EASY	VERY EASY	TOTAL ANSWERS	WEIGHTED AVERAGE
Weighting factor	5	4	3	2	1		
Maintenance/trades	9	8	4	2	3	26	3.7
Professional services		4	2		0	6	3.7
Operational/supervisory	11	8	8	3	4	34	3.6
Marketing		3		1		4	3.5
Agronomists	2	3	2	1	1	9	3.4
Livestock farm labour	6	3	3	5	4	21	3.1
General Farm Labour	11	6	13	10	8	48	3.0
HR		5	1	1	2	9	3.0
Packers	1	3	3	3	2	12	2.8
Pickers	4	4	3	7	9	27	2.5
Total	44	47	39	33	33	196	
% of Total	22.4	24.0	19.9	16.8	16.8	100	

Table 5-2 gives an indication of roles that would most likely see a growth or decline in total number of jobs.

The information suggests that, generally, where jobs are anticipated to be replaced by technology either via 'smart equipment' or robotics e.g. in processing factories, that the number will remain relatively stable. Increases are projected in jobs that cannot be replaced by technology mainly hand harvesting berries, maintenance, farm labour/hands-on and supervisory/WH&S roles, the latter would be required for a larger, mainly operational labour force. The nature of maintenance jobs would change somewhat because of the introduction of new technologies.

Table 5-1 and Table 5-2 together indicate that many roles that are currently hard to fill with 'the right people' (right skills & attributes) may be even harder to fill in the near future, because more people are needed for these types of roles, especially people working hands-on in a range of positions on farms, people with all types of trade skills and people who can supervise the range of practical activities.

Table 5-2: Current and projected employee numbers by type of role (all employer categories) based on survey responses

TYPE OF ROLE	CURRENT NUMBER	FUTURE NUMBER	CHANGE NUMBER	%
Pickers	2481	3127	647	26%
Factory workers	1186	1219	33	3%
General Farm Labour	782	887	105	13%
Operational	509	542	33	6%
Maintenance	338	420	82	24%
Management, Leadership	336	341	6	2%
Packers	287	293	6	2%
Livestock Farm Labour	232	234	2	1%
Supervisory	173	190	17	10%
Other	122	166	44	36%
Office/Business Admin	116	120	4	3%
Professional Services	102	104	2	2%
Agronomy	55	60	5	9%
HR	32	32	0	0%
OH&S	29	33	4	14%
Sales	16	9	-7	-44%
Marketing	14	16	3	19%
Parts	7	7	0	0%

5.2 CURRENT TRAINING AND SKILLS GAPS

While Table 5-2 reflects expected changes in job roles, Table 5-3 focuses on skill areas and training sought for different types of employee roles, and where targeted training was difficult to find. It provides an overview of current skills gaps as perceived by the employers that were interviewed. Additional skills, not mentioned by respondents, may also be important, such as biosecurity, food safety, or post-harvest management.

The numbers in the Table 5-3 represent how often training in a certain skill area (column 1) was wanted for different types of employee role. It highlights that for all types of employee roles, training to improve skills in a range of technologies were most frequently wanted. Examples given for training in technologies used on-farm included operating drones, GIS/GPS applications, pasture monitoring, precision ag applications, irrigation technologies, use of sensors (soil moisture, weather etc.) and predictive tools/apps, as well as operation of highly technical equipment and machinery, including robotics. Managers and supervisors were looking for information technology (IT) skills such as the use of key software packages, including project management and data analysis, including spatial data, apps, and on-line communication.

The most commonly mentioned training that had been completed by hands-on employees, such as farm and factory workers and operational staff, was compliance focussed training, e.g. first aid, forklift licence, and chemical handling.

People working in decision maker roles on farms looked for agronomy and production related training as well as training in a range of technologies.

Table 5-3: Skills and training required for different roles and sought over the past two years

SKILL AREAS	TYPE OF EMPLOYEE ROLE						
	MANAGERIAL/ SUPERVISORY	OPERATIONAL	TRADE OCCUPATIONS	ADMINISTRATION	SERVICE PROVIDER	OTHER	TOTAL
Technologies (various)	8	13	3	3	1	4	32
Management/ leadership supervisory/ financial	19	4	2	1	1	1	28
Marketing/ customer service/ people skills	14	5	1	2	4	2	28
Technical/ mechanical/ trade/practical/ applied	5	20	1	0	0	1	27
Crop & animal production/ agronomy	6	14	0	0	0	0	20
WH&S	0	3	1	0	0	0	4
Total	52	59	8	6	6	8	139

Most employers do not actively look for 'non-compliance training' opportunities. However, they take them up or send staff, if training is relevant, timely, easy to access, and does not take people away from the workplace for too long.

Generally, employers believed that they can train people to do their job (referring to practical skills), if they have the right attitudes and attributes. As a rule, casual staff are not sent to do off-site training. Casual employees and seasonal workers engaged via labour hire companies receive 'induction training' when starting at a workplace, usually delivered by the prospective supervisor, owner/manager, or an HR person (in large businesses), as this is a WH&S requirement. According to feedback, induction training is varied across the industry. Respondents did not mention using on-line resources such as:

- Farmsafe Australia (<https://induction.farmsafe.org.au/>)
- [Safefarm.com.au](https://safefarm.com.au) courses
- FarmTable (<https://farmtable.com.au/build/induction-checklist/>) Sydney University resources (<https://aghealth.sydney.edu.au/resources/resources-for-farmers/>) or industry specific resources e.g.:
 - Dairy Australia (<http://www.thepeopleindairy.org.au/recruitment/induction.htm>)
 - Hort Innovation Australia VegPRO VegInductions <https://vegpro.talentlms.com/catalog/info/id:134>)
 - Any of the many other on-line resources. In small businesses, use of and/or access to online resources appears to not be a major part of training or learning.

5.3 PROJECTED SKILLS GAPS AND TRAINING NEEDS

5.3.1 HARD SKILLS

When asked about skills needed in their business in five years' time, some interviewees found that question more difficult to answer than when asked about future job roles (Section 5.1). Out of 110 respondents, 19 (17.2%) gave no response to this question and only a few gave several responses. Table 5-4 provides an overview of the future skills needs mentioned, by employer category. The table focusses on hard skills, measurable competencies necessary to successfully perform practical/operational, technical and managerial tasks mentioned during the interviews. Traditionally, hard skills are the main focus of education, training, and assessment.

Comparing Table 5-1 and responses to the question of skills needed (Table 5-4) highlights that the skills rated as most important in future, are not necessarily those required by the majority of the projected increased workforce, e.g. pickers, farm labour. A match exists between the projected increase in technical/ maintenance staff and the increase in skills needed in that area. This means that more people with these qualifications are needed and that they have to be well trained, including in new and emerging technologies.

Table 5-4 shows that technology is the greatest area of training need, especially on farms and by professional/technical service providers. 'Technology' was the only skill area rated as important and more needed in the future by all employer categories. Table 5-5 gives an overview of technology skill areas mentioned in the survey. General technical literacy (this included computer skills) was mentioned most often, followed by a range of on-farm technologies.

Table 5-4: Skills needed in five years' time by employer category

SKILL AREAS	PRODUCER	PROCESSOR	CONTRACTOR	PROF. & TECH. SERVICE	OTHER	TOTAL
Technology (various)	18	2	2	4	6	32
Crop & animal production/ agronomy	16		2	1	1	20
Technical/ mechanical/ trade/practical/ applied	11	2	1		3	17
Management/leadership supervisory/financial	10			1	1	12
Marketing/customer service/people skills	7			1	1	9
Literacy/numeracy	5				1	6
WH&S, HR	2	1	1			4
Total	69	5	6	7	13	100

Producers also indicated a greater need for crop and animal production and agronomy skills, especially pasture management and horticulture, followed by applied technical/mechanical skills. This need was not evident from the training they looked for in the past two years, as shown in Table 5-3 where it is ranked fifth out of six.

Skills considered important to business success (management/leadership/supervisory/financial, and marketing/customer service/people skills) were sought by producers, and not mentioned at all by processors and contractors (Table 5-4). Protected cropping training was mentioned by one interviewee as needed. Table 5-5 highlights that most requests for more technology skills training came from producers, and the general technical literacy and on-farm technologies were most important.

Table 5-5: Technology skill areas lacking and needed more of in employees

EMPLOYER CATEGORY	RESPONSES RELATING TO TECHNOLOGY SKILLS NEEDED					
	Number responses	Technical literacy	Robotics	Electronics	On farm technology	Data management
Producer	26	14	1	0	8	3
Other	6	4		2		
Processors	2	2				
Contractors	2	2				
Labour hire	2		2			
Professional services	3	2			1	
Technical services	3	2		1		
Total	44	26	3	3	9	3

One important aspect of skills based training mentioned by many interviewees is that it is not sufficient for staff to have simply completed training in a certain area/topic, they want employees who are proficient, confident and can work without a high level of supervision. Employees are expected to make decisions within their area of competence, recognise risks and problems and be proactive in solving them. These expectations relate to hard and soft skills. Nearly all interviewees commented on the need for having ‘the right people’ referring to attributes, attitudes, and behaviours.

5.3.2 SOFT SKILLS

Soft skills, including attributes and attitudes, are important to a well-functioning workplace. Soft skills were frequently mentioned as needed when employers were asked about training needs for the future. Many respondents gave a higher ranking to soft skills than to hard skills, especially when talking about ‘hands-on’ and operational workers. They mentioned that they could train workers in what they had to do, if they had the ‘right people’. Interviewers noted that many producers who made this kind of comment meant, when referring to training, that they can instruct workers what to do.

Soft skills include abilities like communication, organisation/planning as well as reliability, working well with others, listening, comprehension, willingness to learn, and application (of learnings). Soft skills are often regarded as inherent to people or as naturally acquired with experience. However, soft skills are included in descriptions of VET training outcomes. An example of ‘Employability Skills’ listed for AHC30610 - Certificate III in Production Horticulture can be found in Table 5-6. Out of eight skills listed, seven refer to soft skills.

While the employability skills are clearly identified, trainers who deliver training for a technical qualification (hard skills) are not necessarily proficient in developing soft skills in trainees at the same time. Trainers are usually not trained to do this and probably many would not see it as being part of their role.

Table 5-6: 'Employability Skills', AHC30610 - Certificate III in Production Horticulture

EMPLOYABILITY SKILL	INDUSTRY/ENTERPRISE REQUIREMENTS FOR CERT III IN PRODUCTION HORTICULTURE QUALIFICATION
Communication	Listening and understanding
	Speaking clearly and directly
	Reading and interpreting workplace related documentation
	Applying numeracy skills to workplace requirements
Teamwork	Working as an individual and a team member
	Working with diverse individuals and groups
	Applying knowledge of own role as a part of a team
Problem-solving	Developing practical and creative solutions to workplace problems
	Showing interdependence and initiative in identifying problems
	Solving problems individually or in teams
Initiative and enterprise	Adapting to new situations
	Being creative in response to workplace challenges
	Identifying opportunities that might not be obvious to others
Planning and organising	Collecting, analysing, and organising information
	Being appropriately resourceful
Self-management	Monitoring and evaluating own performance
	Taking responsibility at the appropriate level
Learning	Being open to learning new ideas and techniques
	Learning in a range of settings including informal learning
Technology	Using technology and related workplace equipment
	Using basic technology skills
	Applying OHS knowledge when using technology

A lack of soft skills in employees was highlighted as a major issue that employers have to deal with. The following gaps were mentioned for employees at all levels of employment, but mainly for ‘hands-on’ and operational employees: timeliness and time management, organisational skills, proficiency, comprehension, confidence, ability to focus, being job ready, attention to detail, discipline, and work ethic. The most common challenges related to employees who entered the workforce after finishing school were literacy, numeracy, and computer skills as well as the ability to understand tasks, especially if more than one task was given at the same time. The latter could be the result of, on one hand, poorly explaining tasks and, on the other, poor listening and or comprehension.

For employees in positions that require a certain level of experience and/or training, the following gaps were mentioned during interviews; communication, dealing with people from all backgrounds (‘people skills’, ability to clearly formulate tasks), problem solving, decision making, initiative, financial literacy, strategic thinking, and understanding the overall business.



The ‘Wordle’ in Figure 5-1 provides an overview of all responses relating to soft skills that were mentioned as lacking in employees. Interviewers commented that soft skills may also be lacking in some employers and others who manage staff. It appeared that some employers who ‘looked after their employees’ had less issues with retaining staff or having people returning for seasonal jobs.

Table 5-7 provides a summary of the most frequently mentioned soft skill aspects lacking in employees. General attitude, productivity/efficiency were mentioned most frequently and were often lacking in people doing the more hands-on jobs.

Figure 5-1: Words used to describe aspects of soft skills needed in employees now and in future

Table 5-7: Soft skill aspects mentioned as needed by type of employee role

ASPECTS	TYPE OF EMPLOYEE ROLE						
	Hands on	Managerial/supervisory	Trade occupation	Administration	Service provider	Other	TOTAL
General attitude	10	1	3	2	0	4	20
Productivity/efficiency	9	2	1	0	0	0	12
Experience	8	0	1	0	1	0	10
Job readiness	5	0	0	1	0	3	9
Literacy/numeracy	4	2	0	0	0	3	9
Total	36	5	5	3	1	10	60

6 Attitudes towards training

The survey examined attitudes towards training to better understand:

- Perceived value of, or need for employing staff, who have undertaken formal training
- Perceived usefulness of current training services
- Willingness to support staff to train while working.

6.1 TRAINING AS PART OF PLANS AND BUDGETS

One way of finding out about attitudes was to ask whether the intention to train is included in the businesses' strategic plans and budgets. Figure 6-1 provides an overview for 93 employers who answered the question about their business structure, existence of a strategic plan, and whether training is part of the plan.

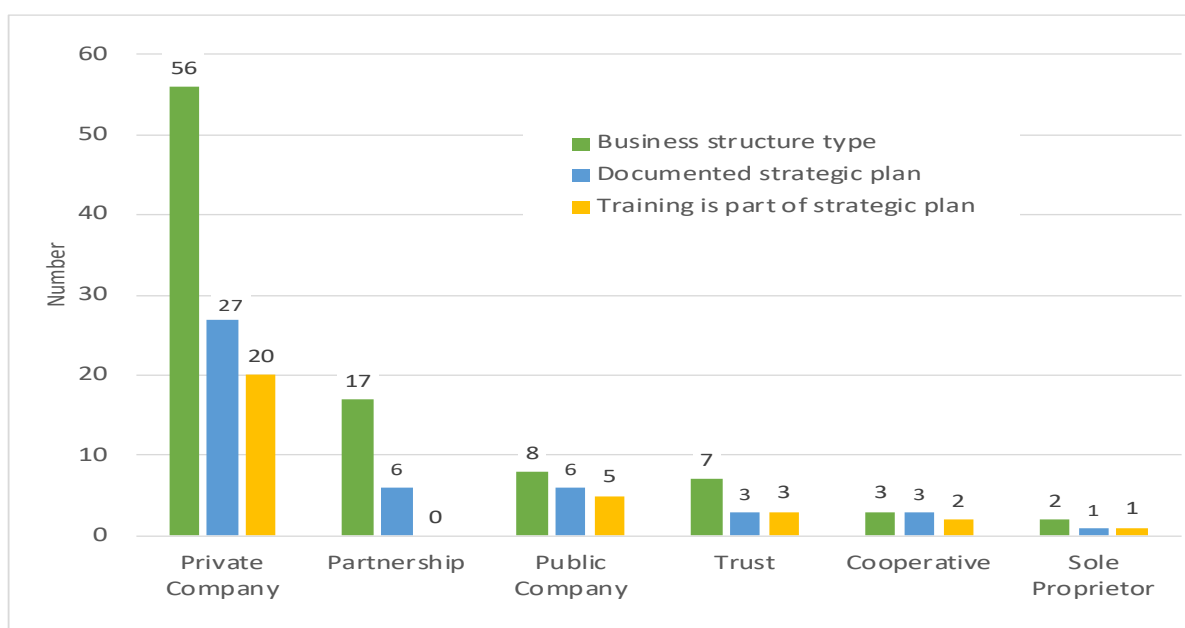


Figure 6-1: Number of businesses with certain structures, and by structure, number of businesses that have a strategic plan and number of businesses that have training as part of their strategic plan

The majority of respondents were private companies, followed by partnerships. They were mainly producers, several of which mentioned that they have a strategic plan in their head and training was a consideration for some.

Of businesses interviewed, nearly 50% have a documented strategic plan and 33% of businesses who responded to the question have training included in a strategic plan. Between 74% and 100% of strategic plans by other businesses structures included training.

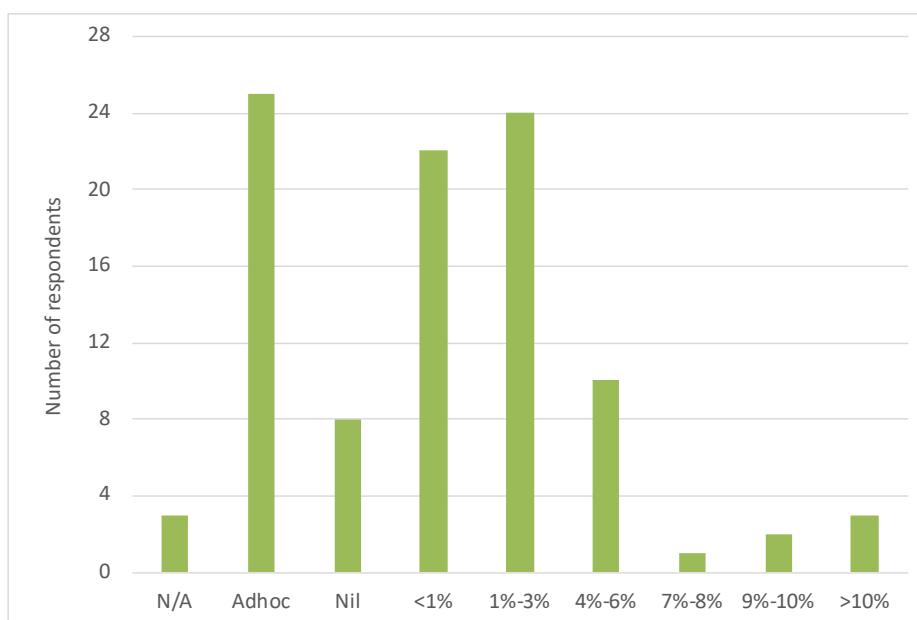
About half of partnerships, trusts, and sole proprietors interviewed, a total of 26 businesses, claimed to have a strategic plan in their head.

Figure 6-2 illustrates the proportion of the annual wage budget allocated to training (training budget as % of total wages). Around 30% of respondents do not have a budget allocation for training and about 60% allocated a relatively small amount.

Generally, the larger the growth reported in the business, the more likely that their spending on training was 4% or more, of wages. All of the producers who had a training budget indicated that their business was experiencing moderate or substantial growth in the last 5 years. With one exception, these businesses were dairy producers. The relationship between growth and willingness to invest in training appeared to be independent of farm size or turnover, which was within the \$1-5 million range; the key factor was business growth.

The willingness to support training in dairy businesses may be related to the training opportunities and quality of training, as well the push by Dairy Australian and Dairy Tas to foster training and people development. Still, feedback from some dairy producers was that it is difficult to find and keep good staff. It was mentioned a couple of times that this issue was holding the business back or even a reason to get out of the industry.

For Australia, most benchmarks suggest that organisations average between 2% and 6% of total salaries on their training budget. In 2017, the average was 5.7% of salaries for <200 employees and 4.4% for 200-499 employees. Generally, training budgets appear to be higher where businesses expect a return on investment from investing in training. This means that businesses are less likely to invest in training of employees that are employed on a casual or seasonal basis, or if they expect staff to not be loyal and stay with the business until the training has 'paid off'.



According to an ABS study¹³, only 40 - 60% of small businesses are engaged in innovative activities, compared to 80 per cent for large companies. The disparity between small and large business was most noticeable in the areas of operational processes (22% vs 44%); organisation and management (29% vs 53%); and marketing methods (26% vs 40%).

Figure 6-2: Training budget as % of total wages (horizontal axis)

Several research papers report that training is closely related to innovative capacity of businesses. One paper¹⁴ reported a strong relationship between training and non-technological innovation (organisational and marketing innovation), whereas its relationship with technological innovation (innovation in products and processes) is not as strong. Another study¹⁵ demonstrated that more training leads to more product and process innovation, with on-the-job training playing a role that is as important as classroom style training. Results from an event history analysis showed, however, that the impact of training fades over time. This means that training should be a professional development continuum and that people at all stages of careers should have access to relevant training.

¹³ ABS Catalogue No 81670: Characteristics of Australian Businesses, 2013-14 Summary

¹⁴ Naranjo-Valencia J.C. et al (2018). The relationship between training and innovation in companies. International Journal of Innovation management Vol. 22, No. 02, 1850012 (2018)

¹⁵ Dostie B. (2017). The Impact of Training on Innovation. Industrial and Labor Relations Review 71(2): 001979391770111

Other studies stress the importance of training for small businesses which should go beyond on-the-job training because on-the-job learning opportunities are limited by their scope, especially the number of others to learn from and the diversity of skills that can be learned.

An Australian study¹⁶ reports findings from surveying 137 growth-oriented owner-managers of small to medium enterprises in terms of their attitudes toward innovativeness among their employees. The study highlights the influence of overall culture within the business and the importance of the owner-manager as a leader and role model. It highlights the importance of supporting professional development of owner managers and others who supervise employees.

Generally, training was valued higher by those who were well trained themselves and was considered more important in larger sized businesses.

6.2 USE OF THE APPRENTICESHIP SYSTEM

The use of apprentices can also be an indicator of the willingness to train staff, employ trained staff, and/or the perceived value of the scheme. Interviewees were asked whether they are employing apprentices.

Table 6-1 shows responses about the use of the apprenticeship system by sector. On average, about one third of respondents are employing apprentices. Reasons given for not employing apprentices centred around not finding the right people, paperwork required, and having to 'let them go to school', i.e., losing them as part of the workforce at times. TasTAFE commented on the reluctance of some employers to let apprentices go to school and that some may see using apprentices as a way of hiring cheaper labour. Communication about mutual needs and challenges may help to improve the value of the apprenticeship system for all involved.

31% of respondents were employing apprentices. Most, by number, were employed in the dairy and vegetable industries, who are the largest employers in the region.

Table 6-1: Number and proportion off respondents making use of the apprenticeship system by industry sector

INDUSTRY SECTOR	YES	NO	TOTAL RESPONSES	% YES
Dairy	10	19	29	34.5
Vegetables	8	13	21	38.1
Other (incl. service providers)	6	19	25	24.0
Sheep, Beef Cattle & Grain	2	8	10	20.0
Mixed Farming	3	4	7	42.9
Fruit	1	5	6	16.7
Eggs & Poultry	0	2	2	0.0
Extractive Crops	2	1	3	66.7
Nurseries & Cut Flowers	1	2	3	33.3
Other Livestock	0	1	1	0.0
Total	33	74	107	30.8

¹⁶ Mazzarol, T.W. (2002) "Innovativeness in Small Firms: An Exploratory Study of the Perspectives of Growth Oriented Owner-Managers", International Journal of Innovation Management, Policy & Practice, 4(1-3): 30-40. ISSN 1440-1266

6.3 STRENGTHS AND WEAKNESSES OF TRAINING, BARRIERS AND SUGGESTIONS

As part of examining attitudes towards training amongst employers, they were asked about strengths and weakness of training available to their staff. Feedback was based on experiences interviewees had with employees and their own training. However, the survey data does not allow to distinguish between the two. It also does not include when (how long ago) the respective training experience occurred.

6.4 OVERVIEW OF STRENGTHS

Out of 44 dairy businesses interviewed, 11 respondents commented positively about dairy industry training, as adequate and often well received i.e., it is readily available, the timing and structure are good, communication about the training is good, and people get advance notice about training opportunities. It was seen as positive that dairy industry training involved experts and local farmers. The positive comments referred not only to VET training but also to delivery of information and extension by DairyTas and the TIA dairy extension team.

The dairy industry, via Dairy Australia, developed a Nationally Accredited Training Course for the dairy industry. Dairy industry training falls under the nationally recognised qualification or training package AHC10 - Agriculture, Horticulture and Conservation and Land Management.

TAFE courses were mentioned by five respondents as a strength, e.g. "TAFE happy to come to the workplace, close".

The following provides one example of feedback received by TAFE Tasmania about training:

"Hi, my name is <name deleted>. In the past 12 months my wife and I have begun running a beef breeding operation on an 85 acre property we bought in Sheffield.

3-4 years ago, I approached <name deleted> to see if she could help me in finding a course through TAFE that would help prepare us for starting our own farm and she was instrumental in helping me into the diploma of ag. We were having a conversation the other day and I mentioned to her how pivotal the diploma had been in our new venture into farming and she asked if I could provide you some feedback.

Every time I have the opportunity, I tell people how valuable the diploma has been, not just to my personal growth, but also to that of the business. Without my study, things like cash flow budgets for the bank etc. would have made our path a lot more complex. Almost all aspects of the diploma have had a direct correlation in improving our farming activities to this point.

So again, I would like to thank <name deleted> and also all of those involved in the diploma for giving us a head start in our farming career"

6.5 OVERVIEW OF WEAKNESSES:

The main weaknesses of currently available training, cited by interviewees were:

- Poor quality (including poor outcomes, lack of resources, trainer knowledge) (46%)
- Limited availability or difficult to find (21%)
- Cost (14%)
- Timing unsuitable (13%)
- Location too far to travel (10%)
- Delivery method e.g. classroom style (7%).

Some interviewees expressed concern about a 'tick and flick' mentality and lack of relevance.

One comment was: "Not learning much, other people on course don't seem interested in learning. Staff doing the course are often having to chase lecturers for more work."

A comment about apprenticeships was around a lack of accountability "if students are falling behind, there is no early communication with the business until it gets out of control."

6.6 BARRIERS TO TAKING UP TRAINING

Many respondents said that there were no specific barriers for training. There was, however, a perception that training opportunities have declined over the past 10 years.

The most frequently mentioned barrier cited by producers was being too time poor themselves to do training and that they find it difficult to send staff away from the farm for training for extended periods (e.g. more than one day). A related barrier was the location and timing of training, i.e., training during busy times on the farm or training that involves travel, especially if the travel meant that staff would be away for more than a day and needed accommodation.

Loss of productivity while staff are away for training was stated as a barrier to training staff. The potential for training to improve productivity in the long run was not part people's thinking. Employers are not keen to allow casual employees, or even part time permanent employees, time off work to undertake training unless training is required for compliance reasons e.g. with food safety rules or WH&S requirements.

Some mentioned the perceived need to commit to a full course (e.g. Cert. III or IV), even if they only wanted to upskill in a certain area.

The cost of training was mentioned by some, but it did not appear to be a major barrier, even though it was suggested by some to reduce costs to increase the likelihood of training staff.

Some employers are reluctant to send staff to be trained because they have had poor staff retention; they are worn down by the constant need to train new employees. Some said they do not want to invest in staff that then leaves, benefiting other employers. Others said that staff members were not motivated or did not have the capacity to benefit from training. People who did not like going to school are often not keen to go back to the classroom. However, if the training is practical and has direct relevance to the job, motivation may be better.

The competence of the trainer, or lack thereof, was another barrier mentioned a few times, as well as relevance of training to the business. Qualifications and units of competency and/or how they are delivered are not believed to be representative of current and new practices and technologies.

Larger businesses with many employees and/or specific training needs organise in-house training or send staff to courses that meet their needs (topics, locations, delivery). This includes conferences and training taking place interstate or sometimes even overseas (e.g. the 2 week post-harvest management course run by UC Davis).

According to feedback from interviews as well as educators and trainers, the image of agriculture is a barrier to attend education or training. This applies to school leavers and people who are currently not working in the industry. They commented that the image needs to be shifted by highlighting industry diversity, its importance, and opportunities for young, technologically savvy people and that they can have a career in agriculture.

Insights:

- Even in the North West region, production areas are geographically dispersed (Figure 1-2, Table 3-3, Table 3-4) so that travel is required by many to attend training
- Many production cycles are not conducive to longer periods of training off farm
- Many of the hands-on roles on farm and in packing or processing operations do not require high entry levels of training/education; the staff fulfilling these roles are often unfamiliar with opportunities to further their skills or are not interested in training that reminds them of school type approaches; they may not know how they can benefit from training or are finding it hard to find the right type of training and/or support from their employer to be away from work for training
- In small businesses, the majority of businesses in the North West Region (Figure 3-1, Table 3-6), career options in the business are non-existent or limited, preventing staff from seeking advancement via training and or preventing employers supporting staff training because it may mean that staff would leave to follow a career or 'get a better job'
- Formal training certificates are not valued by many in the industry
- Many employers are critical of the attitude and commitment of young employees. It was not clear whether a lack of intergenerational understanding may contribute to the issue or whether employers are dealing with 'a spoiled generation' of young people.

Appendix 7 provides further insights from a debrief with the four interviewees. They were asked to document the key themes they heard that are reflecting attitudes towards employment and training.

6.7 SUGGESTIONS TO IMPROVE PARTICIPATION IN TRAINING

Removing barriers and weaknesses of training and building on or learning from strengths mentioned should be part of improving participation in training.

The main suggestions for improving training participation during interviews, in order of frequency, were:

1. Deliver locally, on farm/on site/more practical (15)
2. Reduce costs/improve affordability (13)
3. Timing e.g. prefer short courses generally or in evenings or during winter (11)
4. Improve training quality and relevance/reinstate traditional models (6)
5. Information access e.g. who to contact; easy access to information on training currently offered (4).

20 respondents suggested specific topics which were included in Section 5.3.

6.7.1 INSIGHTS

Labour challenges have many facets; one that was identified is a need for a greater focus on providing good work environments and cultures. This means employers, especially owner managers, would benefit from training.

Training in agriculture needs to be relevant, accessible in time and place, fitting in with seasonality within industries, be adaptable/flexible, of good quality, and delivered by competent, respected trainers who understand new and upcoming practices and technologies. It is important to provide easy access to information about training and easy access to the training itself. The scope and delivery of training has to be right e.g. avoiding classroom style environments for practical people.

- Content has to be specific to what people want to learn
- Targeted (by skill or topic) short courses and workshops were preferred to full VET courses that include topics considered to be not relevant by some

- Preferences were for 1-day workshops with time available at the beginning or end of the day so that urgent work tasks could be attended to on the day as well as evening or weekend courses, on-the-job or on-farm training
- Practical, current information was preferred over theoretical knowledge by many; theoretical topics have to be brought into context of production and should ideally include a practical component and on-farm delivery
- Trainers' skills, knowledge, and aptitude are considered more important than being part of an RTO
- Training was preferable when delivered locally or on-site
- Online training, even if not seen as a main option, especially for operational employees can be valuable to those who want to upskill; benefits are being able to take time completing a suitable course and thus making it easier to fit it around work.

While the focus of the workforce plan is on formal training, it is important to also promote and support informal training and learning opportunities. Options vary depending on the type of employer and employee. Some suggestions are listed below:

On-the-job suggestions

- On-the-job learning with projects that stretch employees
- Work-based projects associated with coursework
- If the workforce is larger, encouraging focused group projects and team-building retreats
- Coaching and mentoring by supervisors and/or peers
- Sharing knowledge and information deliberately, making time for it
- Allowing set times for targeted research, reading and learning online, group online learning
- Secondments to/exchanges with other divisions or businesses
- Acting in a more senior position
- Membership of professional bodies.

Other

- Targeted workshops
- Leadership programs
- Seminars, forums, conferences, extension events.

A further aspect of improving participation in training in agriculture, especially by school leavers or people wanting to change careers or industries, is the need for:

- Promotion of job and career opportunities in the industry and of agriculture as a vibrant and interesting place to work, especially for qualified/trained people (e.g. trade, science, business, technology, logistics, consulting, managing), in schools and with career advisers as well as on career websites that usually focus on the outdoor and physical aspect of jobs in agriculture
- Showing clear career pathways in agriculture and supporting trades (e.g. electrician, air conditioning and refrigeration mechanic, general mechanic, fitter/turner, welder)
- Counteracting the frequent presentation of the agricultural industry in a negative light, especially in media (e.g. employment/workplace conditions, remuneration, treatment of workers, all jobs are hands on and 'dirty', rate of accidents on farms, long working hours, seasonality of work, relative remoteness and associated lack of infrastructure and services)
- Industry engagement with the education and training sector
- Industry having a positive attitude towards training and seeing it as an ongoing process and investment.

Research¹⁷ shows that high-performing organisations in Australia and overseas share certain features in relation to training, learning, and development;

- They align and integrate their training and development initiatives with business planning and budgets
- The business and industry culture supports training and addresses barriers to training and learning
- Managers invest in, and are accountable for, training and development of staff as well as their own
- They focus on the business application of training; they consider
 - Appropriate learning options to get the best outcomes for the business
 - De-emphasising classroom style training, and
 - Allowing employees time to apply what they have learned on the job, consistent with adult learning principles
- They evaluate learning outcomes and make changes as required.

¹⁷ Bartel A.P. (2000). 'Measuring the Employer's Return on Investments in Training: Evidence from the Literature', *Industrial Relations*, 39(3).
Foxton M. (1989). 'Evaluation of training and development programs: A review of the literature', *Australian Journal of Educational Technology*, 5(2).

7 Feedback from education and training providers

Both, the University of Tasmania (UTAS) and the Tasmanian Technical and further Education (TAFE) vocational college provided feedback on their role and challenges with servicing education and training needs for agriculture.

7.1.1 TAS TAFE

Tas TAFE experiences challenges around delivering on the diversity of training required with the available staff and facilities. The need and expectation to be 'on top of the game with all the new technologies' in knowledge and equipment, as well as having to adhere to the required (by RTOs) assessment needs and having to have a minimum number of students to be financially able to deliver a TAFE course is often difficult. 'TAFE course' refers to skills sets and competencies that are part of a nationally recognised qualification or training package qualification, or of a national accredited training course.

The main demand for courses is in the area of compliance e.g. pesticide use (Chem Cert) and forklift and quad bike training. In many courses, it is challenging to train students with a wide range of motivation and prior learning or experience. Some students are participating because they have to get a 'certificate of attendance', if not employed, others want to learn and apply what they have learned to their job.

Still, TAFE has been and can be flexible in course delivery, trying to align timing with industry needs, going on farm and involving industry experts where possible. One important aspect is that industry needs to engage with TAFE to ensure needs are met. They are for instance currently working with Irrigation Australia, an industry body and RTO, on delivering irrigation management training. Courses available, if enough students register, are for instance Certificate II, III and IV as well as Diploma in Irrigation with a range of relevant skills sets for operators, installers, contractors, and retailers of irrigation systems.

The irrigation training examples are courses available under the AHC10 Agriculture, Horticulture and Conservation and Land Management Training Package. This package covers all aspects of training in agriculture and options to 'import' skills sets and competencies from other packages. Reviews and updates of training packages ensure that skills sets and competencies are included, e.g. on-farm technologies.

From the view of the training provider, it appears that some employers see formal training, e.g. of apprentices or sending staff to courses, as an imposition, not an investment in the future of the business and the industry. TAFE would very much welcome more interaction with the industry: 'They should be part of the solution (to better training) rather than just being negative'. It is apparent that there are clear expectations upon trainers apart from the need for a formal qualification. Employers want to see training outcomes in their business. However, there are no expectations upon employers, such as their skills in on the job training, or workplace requirements, for those who employ apprentices. Their progress in learning on the job is not really well monitored. Therefore, apprentices attending the same class can still be at very different levels of learning on the job.

Where cooperation with industry works well, e.g. with Dairy Tas, shared advertising of courses is part of informing and attracting students. There could be opportunities to work more closely with TFGA or Primary Employers Tasmania. Tas TAFE has worked collaboratively with the Cradle Coast Authority to deliver informal training and demonstrations of various topics, e.g. pasture species and other project work of interest to students.

One challenge is that funding for TAFE colleges is aimed at delivering qualifications, not skill sets or competencies, while industry demands greater flexibility and an increase in the delivery of short courses.

The current assessment system does not allow for distinction or credits which means that extra effort by students is not rewarded. As a result, students are not encouraged to strive for excellence, they just have to pass, there is no grading. Still, student progress is well monitored and documented, including attributes (employability skills).

7.1.2 UNIVERSITY OF TASMANIA (UTAS)

UTAS summarised education and training related issues in agriculture in a recent publication¹⁸. It provides the following analysis:

Capable staff are not easy to find in rural areas, and potential workers often lack the skills, or the right attitude and motivation to develop a successful career in agriculture. On the other hand, employers sometimes lack the **skills to manage staff well**, to inspire them, and to provide a satisfactory work environment. These demand-side drivers have major financial consequences related to high turnover of personnel, and low public perception about jobs in the sector. Beyond addressing well-known skill shortages, it is increasingly necessary to build skills in human resource management and leadership within the sector. This can be accomplished through recruiting 'good managers' (where possible) as well as supporting education, training and advice for existing business managers.

Leadership and management skills within food and farming businesses are as essential as training and education in addressing labour and skills shortages. Among UTAS interview participants, and consistent with findings from this survey, there were divergent ways of talking about labour issues. Some employers have great staff and invest a lot of time and energy to ensure they are happy and productive; others expressed substantial concern about the quality, attitude and availability of staff. We suggest the challenge for agriculture is not just 'attracting more young people to agriculture' through skills and training, or even improving the attitude of people looking for work. An equally important task is 'making agriculture attractive' through developing excellent leaders and leadership.

UTAS has taken up many of the recommendations from the study. They include the development of targeted and flexible short courses within the University of Tasmania (UTAS) and working with Tas TAFE and through private providers to provide these. UTAS understands the growing demands of technical knowledge and that the ability to manage technology requires continual upskilling within many businesses.

UTAS has addressed the need for training while working via the University College course in Agribusiness and the delivery of the Masterclass in Horticulture.

Working with other education providers on pathways requires further and ongoing work.

¹⁸ Leith, P. Garcia, C. Kumar, S. Adhikari, R. Baker, C. Cumbo, B. and Evans, K. (2019); Aspirations for Food and Agriculture: Final Research Report and Discussion Paper for TasAgFuture, University of Tasmania, Hobart, Australia.

7.1.3 CHALLENGES FOR THE EDUCATION AND TRAINING SECTOR

- Tradespeople require a qualification to be allowed to do certain jobs, while this is not required for jobs in agriculture; this has an impact on how training is viewed, supported, and used
- Developing a culture of training when industry does not actively engage; DairyTas and also Fruit Growers Tasmania have been proactive in their engagement
- Although relevant training packages and associated skill sets/competencies have been developed for agriculture and production horticulture (by Skills Impact) the system of funding RTOs does not enable delivery of these VET courses unless a minimum number of students apply
 - Enrolments may be low due to the image of the agricultural industry and because clear and attractive career pathways are not being promoted by most industries, especially to schools and career advisers
 - A lack of timely promotion of training and information about training options by many industry organisations together with training service providers may be another reason for low enrolments
- Dwindling enrolment in production horticulture courses over the years has led to 'no delivery'; trainers have moved to other areas; it could be difficult to provide quality training in horticulture e.g. for the vegetable industry, 'ad hoc'
- There is a general shortage of trainers with the level of industry experience many employers would like to see, however, RTOs could work with industry experts to fill the gap
- A lack of suitably qualified workplace supervisors to oversee instruction and assessment on the job for apprentices or trainees
- Not all who start a training course to get a qualification in agriculture or horticulture finish it
- University courses require a certain level of enrolment to justify delivery, universities heavily rely on overseas students for many courses
- The usually low number of people wanting to attain specific qualifications in agriculture and even fewer in horticulture makes it hard to design and deliver targeted education and training
- The physical distance to a training centre can limit enrollments, especially in courses that deliver qualifications as compared to short courses
- Inadequacy of some physical training resources (equipment and machinery, current and emerging technology); still, it is not possible to have a multitude of physical resources covering all technologies used on farms in the region available at a training centre, especially if enrolment numbers for training are low
- Places of employment, especially farms, vary widely in the use of technology which makes it difficult to deliver practical training that meets all needs, especially in a training centre; delivery on farms may improve the situation
- The different level of literacy, numeracy and software skills (e.g. email, internet, word processing, and spreadsheet, database, or specialised software packages) of students adds to the complexity of training in new and emerging technologies
- Challenges for delivering targeted training, e.g. as a short course, as requested by many, are:
 - Getting timely feedback on training needs
 - Having systems and trainers in place that allow fast and flexible delivery of training, especially in regional areas
 - Non-enrolments or cancellations and 'no shows' by growers and their staff to training events they have asked and even booked in for
 - Funding priorities.

8 Education and training opportunities

8.1 CURRENT EDUCATION AND TRAINING

Appendix 5 provides an overview of currently offered training opportunities for agriculture/horticulture in Tasmania. Services change each year, depending on expressed (by industry) or perceived needs. The following sections describe future opportunities to potentially improve training services and fill gaps.

8.2 OPPORTUNITIES

This section provides an overview of training opportunities and what type of training may be delivered.

8.2.1 TAS TAFE

As explained in Section 7, Tas TAFE can, in principle, deliver all relevant Qualifications or specific Units of Competency in the AHC - Agriculture, Horticulture and Conservation and Land Management Training Package (<https://training.gov.au/Training/Details/AHC>) and relevant national certified courses not developed via Skills Impact (government organisation), including short courses (examples can be found at <https://www.training.com.au/agriculture-courses/>).

Release 1.0 of the recently reviewed AHC Agriculture Horticulture and Conservation and Land Management Training Package will be available on training.gov.au by the end of June. It covers training for the following sectors.

- Agriculture and Agribusiness
- Agricultural Chemicals
- Beekeeping
- Composting
- Dairy
- Feedlot
- Floriculture
- Irrigation
- Organic Production
- Permaculture
- Pest Management
- Pork
- Poultry
- Production Horticulture
- Production Nursery
- Retail Nursery
- Seed Processing
- Seed Production
- Seed Testing
- Shearing and Wool Handling.

More detailed information can be found in the AHC Agriculture, Horticulture and Conservation and Land Management Training Package Companion volume available from <https://vetnet.gov.au/>.

There are several further relevant packages that have recently been reviewed, are in the review process, or are newly developed based on industry feedback. Examples are:

- Horticulture and Nursery (covers production horticulture)
- Protected Cropping
- Agronomy – this includes spatial technologies and data management
- Ag Biosecurity and Emergency Response
- Medicinal Crops
- Environmental Sustainability Skills.

However, TasTAFE must have the relevant Qualifications or specific Units of Competency in its scope of registration by Australian Skills Quality Authority (ASQA) according to the Standards for Registered Training Organisations (RTOs) 2015. Registrations can be viewed via <https://training.gov.au/Organisation/Details/60142>. Tas TAFE is registered to deliver to meet the identified training needs to upskill people in agriculture at all levels. It shows that TasTAFE is well equipped to provide training for agriculture, horticulture and associated trades.

Still, having the registrations is not an indication of what training products an RTO is actually delivering. Delivery is driven by interest and commitment of students to complete a Qualification or specific Units of Competency and the availability of qualified trainers (relevant vocational competencies).

If certain industries had a specific need, they could, through tier peak industry body, work with TasTAFE on ways to deliver the training, if there was a commitment to come up with the required number of students to participate.

8.2.2 UNIVERSITY OF TASMANIA (UTAS)

UTAS has reacted to changing demands for education and training and is planning to continue with a more flexible approach alongside delivery of the core science-based Bachelor, Masters, and PhD courses. UTAS will use a Steering Committee with industry representation to develop relevant course content. UTAS also consults with individual industries as required. One aim is to allow people to come back to university to study after some time in the workforce or while remaining in the workforce. While being focused on delivering education and training to cater for industry needs, the university has to maintain a focus on science and funding sources.

The University college associate degree in agribusiness management has been very successful, especially because it allows students to do the course while working. The Masterclass of Horticulture Business will be continuing with funding from Hort Innovation Australia. Dairy Australia is looking to develop a similar course with them.

UTAS is planning to deliver more on-line training and shorter courses (e.g. 40 weeks) delivered in a mix of on-line and face-to-face sessions. The university is also using industry specialists and consultancies to deliver courses on specific topics rather than trying to cover all topics in-house. This will allow greater flexibility and catering for industry needs.

While UTAS has been working with Tas TAFE on pathway programs, uptake has been poor so far and further engagement between the two organisations is required.

8.2.3 INDUSTRY TRAINING HUB

Australian Government via the Department of Education, Skills and Employment is investing \$50.6 million to trial Industry Training Hubs in ten regions across Australia. Industry Training Hubs aim to improve opportunities for young people in regions with high youth unemployment, targeting Year 11 and Year 12 students. Each Training Hub is managed by a full-time Career Facilitator, providing an on the ground presence and delivering Training Hub services.

Career Facilitators will work with and encourage young people to build skills and choose occupations in demand in their region, creating better linkages between schools and local industry and repositioning vocational education and training as a first-choice option. Through this work, the Industry Training Hubs aim to help eliminate persistent high youth unemployment in regional areas.

The Burnie Training Hub was the first to be launched on 16 March 2020. The Career Facilitator is working with a Steering Group representing the VET sector, Skills Tasmania, and major industries in the region (agriculture, forestry, mining, hospitality, health care).

This provides an excellent opportunity to address some of the challenges identified in this report e.g. via facilitating blended education and participation in short courses (micro-credentials).

8.2.4 AGRICULTURE CENTRE OF EXCELLENCE

The Agricultural Centre of Excellence in the North West is centred around Burnie's Freer Farm and will support delivery of relevant training through a contemporary learning facility for agriculture students. The aim is to support a modern facility for Tas TAFE course delivery, plus extended delivery through partnerships with Agritas Trade College and the University of Tasmania. Outreach training will be a key component of delivery provided on farms. The Centre of Excellence will deliver qualifications from specific industry led skills sets, through to Certificate and Diploma qualifications, and up to Associate Degree and Bachelor Degree qualifications in agriculture, natural resource management, and agribusiness.

Effective engagement between industry and the Centre will be vital for its success in delivering the required training. The Centre will not require or be able to have the multitude of physical resources (equipment, machinery, technology) that is used in farming. Access to many technologies will have to be provided via the outreach training program.

An important aspect of the Centre will be to provide training in a range of formats to suit different audiences, adult learning, and especially younger adults. These could include but are not limited to:

- A minimum of classroom style delivery
- Practical demonstrations, learning by doing
- Project or problem based learning, in groups or individually e.g. via a case study approach, putting trainees in the role of a decision maker and problem solver, encouraging shared learning
- Fostering 'Communities of Practice' e.g. sharing and learning via social media platforms
- Coaching individuals or in groups – combining technical learning and problem solving with personal development
- Mentoring – focus on personal development and leadership.

One important role for the Centre and its co-operators will be to facilitate an improved 'culture of training' i.e., the attitude towards training in the region (and state). Our analysis of the interviews highlighted that one of the main challenges mentioned by most businesses is not training as such or the implementation of innovative technologies but attracting and retaining 'the right people'. Many appear to struggle with 'looking after people' and making working in agriculture an employment of choice, not a job for those who cannot work anywhere else. Interviewers mentioned that interviewees who did not mention great difficulties appeared to be making an effort to look after people, including providing good facilities and being conscious about WH&S.

Many employers may need support in how to become 'better employers' and thus benefit from trained staff and retaining people. Changing culture will take time and is a matter of changing values and attitudes, rather than only teaching people new technologies or replacing old equipment and processes with new ones.

This change will require strong industry leadership and cooperation between industry leaders and the education and training sector. Addressing the required change in attitudes towards training and managing people may be more important than having the latest and best technical resources and equipment at the Centre.

9 Synthesis

The synthesis draws on the ‘findings and insights’ and ‘education and training opportunities’ sections of this report. It provides responses to the key study questions about:

1. Employment and career opportunities in the agricultural sector in North West Tasmania
2. The skill and knowledge requirements of those opportunities
3. What industry, government, and education and training providers can do to support the growth of a highly valued agricultural workforce in the North West region of Tasmania.

9.1 MAPPING AND CAREERS

This section addresses questions relating to 1 and 2.

9.1.1 MAPPING

A straightforward workforce model developed for agriculture by Melbourne University has been adapted for this study. It distinguishes between roles of ‘deciders’ and ‘doers’¹⁹.

- ‘Doers’ are in operational jobs, mainly ‘hands-on’ and following instructions, some can also be lower level team leaders
- ‘Deciders’ are in managerial and professional jobs; their focus is on instructing others, planning, coordinating, controlling, documenting, and analysing.

The model has been used to describe differences in employment type and related skills, knowledge, and training needs as well as challenges (Table 9-1). This agricultural model has been used here in preference to the general workforce model of seven job clusters developed to help young people ‘navigate the new work order’ and start in jobs and careers²⁰. The ‘7 job cluster model’ could be adapted and used, for instance, in career guides to attract young people into agriculture. It was not considered well suited to matching training needs and opportunities for workforce development at all levels of agriculture in North West Tasmania.

Table 9-1 provides context for the mapping exercise (Table 9-2), for which key job roles from the survey were grouped based on the main type of employment (e.g. casual, permanent) and allocated to the ‘doer’ or ‘decider’ categories. Hard skills needed for each job role group, based on the survey, were then matched with key training options for hard skills, both qualifications and targeted training (short courses, skills sets, competencies). The change in the number of people needed in each job role group has been included in Table 9-2. The table also provides information on the key soft skills needed based on survey responses.

¹⁹ Santhanam-Martin M. Cowan, L. (2017) Understanding Skilled Workforce Issues in the Goulburn Valley Fruit Industry. Technical report from a joint University of Melbourne and Agriculture Victoria project. Available via <https://www.researchgate.net/>

²⁰ AlphaBeta (2017) The New Work Mindset. 7 new job clusters to help young people navigate the new work order Report for The Foundation for Young Australians

Table 9-1: Key aspects of operational jobs ('Doers') and managerial/professional jobs in the North West region

ASPECTS	OPERATIONAL JOBS 'DOERS'	MANAGERIAL/PROFESSIONAL JOBS 'DECIDERS'
	Mainly 'hands-on', following instructions, some lower level team leaders	Mostly 'decision makers', instructing others, planning, coordinating, controlling, documenting, analysing
Employment type	Mainly seasonal and casual, a small proportion of permanent part time and a few full time	Mostly permanent, full, and part time
Skills & knowledge acquisition	On the job learning, in-house training to varying degrees, VET certificate training, targeted short courses	Tertiary education, diploma, on the job learning, in-house training to varying degrees, targeted short courses, conferences, travel
Types of roles (examples)	All types of farm workers, factory workers, and maintenance staff, admin help, leading hands, tractor, forklift and truck drivers, equipment operators	Managers (owners, CEOs, GMs, divisional managers) supervisors, specialists (agronomy, accounting, HR, WH&S, QA, LEAN, logistics, marketing)
Industry entry paths	Labour hire, external recruitment, word of mouth, family connections	Graduate recruitment, 'headhunting', poaching, word of mouth, trainee or internship, from similar role in other industry, in-house recruitment/ promotion, family connection
Required training	Compliance training and trade certificates as applicable	Relevant tertiary education, diploma
Desirable training, skills/attributes	As above plus literacy, numeracy, experience, 'right' aptitude & attitude, relevant technical skills, comprehension, problem identification, targeted short courses, traineeships, apprentices	Experience, relevant technologies, financial literacy, people management, leadership, communication, (verbal & written), negotiation, systems/analytical thinking, risk management, problem solving, strategic and business planning, data management
Current priority skills gaps across all sectors	All levels of technology/general technical literacy such as: robotics, electronics, on farm technologies (GIS/GPS, variable rate technologies, monitoring, combining data platforms), data management (analysis & use) Levels of horticulture, especially targeted training (vegetable and fruit production) and pasture management	
	All relevant trades All aspects of crop and livestock management Ability to acquire and apply taught skills to a range of tasks	Business/financial management, Leadership, people management LEAN principles
Future skill needs	As above plus new crop/animal production/agronomy production approaches	As above plus marketing/customer service Crop/animal production/agronomy (science, technology, practical applications)
Current training services gaps	RTOs can, in principle, cover all training needs; relevant Training Packages, Skills Sets and Competencies developed by Skills	Tertiary education and training in agriculture and especially horticulture delivered by universities

ASPECTS	OPERATIONAL JOBS 'DOERS'	MANAGERIAL/PROFESSIONAL JOBS 'DECIDERS'
		Mainly 'hands-on', following instructions, some lower level team leaders
	Impact and approved by Government are available	
Main challenges	<p>Actual training delivery, especially for horticulture, because of:</p> <ul style="list-style-type: none"> ▪ Low registration rates ▪ Industry image ▪ Not offering targeted short courses at the right times or locations relevant for people already in the workforce ▪ Training offers can be hard to find or comprehend for students (what will I learn, what is it good for?) ▪ Training appears to be too much like school ▪ Promotion of courses rather than careers ▪ Lack of qualified teachers & trainers ▪ Lack of modern machinery and equipment <p>Training for the dairy industry was mostly rated positively, still there was a lack of skilled workers</p>	<p>Agri-food courses by tertiary institutions experienced dwindling student numbers over the past 10 years, therefore only a few tertiary institutions offer agriculture and production horticulture courses now (nationally); University of Tasmania is still a major provider of agri-food education and training</p> <ul style="list-style-type: none"> ▪ According to national enrolments, students appear to be most interested in peri-urban horticulture and environmental studies ▪ Agriculture and horticulture do not have a good image (negative reporting) ▪ Study fees are high, students may therefore study subjects where the perceived or real pay is better than in agri-food industries ▪ Focus on fee paying students, mainly from Asian countries where an agriculture degree is seen as inferior to medicine, law, engineering etc ▪ Students completing relevant degrees with a non-agri-food focus do not know about opportunities in the agri-food industries
Use of on-line training	Currently low	Currently low to medium

The mapping exercise (Table 9-2) does not allocate specific training courses job roles; for instance, training that could be provided by TAFE Tasmania, Trade Centres, or UTAS. However, it does list how many people might take up certain courses. The reason for doing this is based on the experience that offering certain training opportunities to address identified needs, even if identified by those who would benefit from the training, does not mean that people will actually sign up for it, show up and do it. This experience is shared by many formal and informal training providers.

In principle, training and education pathways can be matched to training needs. However, delivery requires a commitment by those who want training. Nominated, aspirational training needs often do not translate to training demand. A commitment to training could be achieved by linking with large scale employers or industry organisations who can make or facilitate commitments to 'provide' the required number of trainees. They may have an input into the focus of training topics and delivery approaches, as well as potentially assisting with identifying or providing trainers and also with access to technologies, if required.

9.1.2 CAREERS

As is common to agriculture, employees of contractors, some technical service providers, and smaller scale farm businesses, roles straddle the 'doer' and 'decider' categories. They fulfil operational and managerial functions. As their business grows, they often develop from a purely operational position to taking on managerial tasks and, with the business continuing to grow, many move to an entirely managerial position (Figure 9-1). This transition usually occurs as a gradual progression; people find themselves in a managerial role without formally having prepared and trained for it. That is one reason why, in small to medium size operations, some decision makers struggle to a degree with business management, HR, and people management aspects of the business. Marketing and logistics can also become a challenge, especially for producers who move from supplying Tasmanian processors and packers to selling to retail and wholesale markets locally, nationally, and especially overseas.

Having developed from an operational to a managerial focus within a business without formal training may influence the attitude of some operator/managers and managers towards formal education and training and explains the lack of a 'culture of training'. It may be one reason why, in interviews, an emphasis by many producers was on finding the 'right people' and on one-the-job learning or practical training on-farm rather than obtaining qualifications.



Figure 9-1: Progression from an operational to a managerial job role

Careers in agriculture can be more deliberate than moving from an operational to a managerial or professional role when people make a choice about which type, and level of work would suit them and embark on education and training to get there. The job roles in Table 9-2 provide a potential progression, where entry into a career can occur on any level and people can progress as far as they are able to. Ability relates to capacity, ambition and life circumstance. Careers in agriculture occur in the main areas listed below. Not all of them were brought up during the interviews but should still be promoted in career guides. People can choose career areas depending on interest and training opportunities or prior to training and employment for those who are changing careers.

- Agribusiness, equipment, and input sales
- Agronomy services
- Business management, administration, or accounting
- Compliance and quality assurance
- Design, media, and communication
- Education, training, extension
- Engineering, trades, machinery operation
- Environmental management
- Human resource management and workplace health and safety
- Marketing and sales - domestic and export
- Production – all industries aspects
- Logistics
- Science, research, and development
- Technologies (on farm, in factories, in administration, information technology).

All of the above careers can, in principle, commence with any level of qualifications in agriculture, horticulture and related disciplines taught by RTOs or universities. Many careers in agriculture or horticulture have started with people commencing with a 'doer' job and without relevant qualifications. They then trained while on the job, either by attaining a qualification or by participating in a range of targeted short courses. Many careers in agriculture have not been 'straight'; people came from many different backgrounds. It is therefore important to inspire young people and others via showcasing careers (e.g. via case studies) to 'give it a go' and start to work in agriculture/horticulture.

For Table 9-2, we have not attempted to use any estimate of absolute numbers of jobs for different job roles but provide an indication of expected increase or decrease in numbers. As mentioned before, extrapolating from the 110 interviews could result in a substantial error margin.

Table 9-2: Training and skills needed for different job roles in North West Tasmania based on survey responses

More people and more training needed, steady numbers or declining but more training needed, more people needed, no change in numbers or training need (refer Table 5-2).

GROUPING	MAIN EMPLOYMENT TYPE	JOB ROLE AND CHANGE ESTIMATE	HARD SKILLS		SOFT SKILLS
			QUALIFICATIONS (CERTIFICATES, LICENSES, DEGREES)	TARGETED TRAINING, SKILLS SETS, COMPETENCIES	
Doers	Casual/seasonal, very few part-time permanent	Pickers & packers <i>large increase</i>	N/A	General induction training e.g. food safety, WH&S, behaviour	Behaviour, comprehension
Doers	Casual, permanent part time, permanent	General farm labour, factory workers <i>increase in farm labour</i>	Drivers licence, first aid, food safety, Chem Cert, WH&S, lean management, licences to operate specific machinery (forklift, truck, chainsaw, excavator, ATV, spray equipment, chain saw etc) Literacy, numeracy, computer literacy as part of schooling up to year 12	Training needed for all types of hands-on farm work, mainly on the job training, employers may need to be trained to instruct or train effectively	Behaviour, comprehension, application to the job
Doers, some Deciders (supervisors)	Casual, permanent part-time, permanent	Operational jobs in all employer categories <i>small increase</i>		Need targeted training to fill identified gaps, e.g. short courses, training on site or in the region, especially in relevant and new technologies by qualified, respected trainers	All soft skills, refer to Table 5-7
Doers, some Deciders (team leaders, managers)	Permanent part-time, permanent	Tradespeople, maintenance staff <i>small increase</i>	All relevant trade qualification certificates	Technical skills, new technologies for their trade, WH&S, managing people for team leaders	All soft skills, refer to Table 5-7
Mostly Deciders	Permanent, part-time, permanent	Office/ business Admin/ QA <i>steady</i>	Diploma or relevant tertiary degree, CPA	Payroll, software, general business, data and financial management, software packages, people management	Communication, planning, organisational skills
Mostly Deciders	Permanent, some part-time permanent	Agronomists/ professional services/ other skilled jobs <i>small decrease</i>	Diploma or relevant tertiary degree	Technologies, on farm trials, agribusiness, reporting, data analysis, software packages, people management	Communication, planning
		Managers, supervisors, HR, WH&S <i>small increase</i>	Diploma, other qualification, or relevant tertiary degree for their role	Relevant technical skills, technologies, IT, planning, business and financial management, software packages, people management	People management, leadership, planning, organisational skills
		Marketing/ sales <i>small decrease</i>	Diploma or relevant tertiary degree	Negotiating, communication, planning, financial management, software packages	Communication, people management

Appendix 6 provides a list of qualifications and competencies Tas TAFE is registered to deliver to meet the identified training needs to upskill people in agriculture at all levels. The list and information about Tas TAFE in Section 8.2.1 shows that, in principle, identified training needs can be met by Tas TAFE, and UTAS courses can provide pathways, professional development opportunities, and relevant tertiary qualifications (Section 8.2.2). A new Diploma course in Agronomy will soon be registered via Skills Impact and, if TasTAFE register for it, the capacity for meeting training needs in the region will further improve.

In summary there is a need to:

- Upskill a large and increasing number of people working on farms ('doers')
- Upskill a smaller and more stable number of 'deciders' to build knowledge for their job roles as well as management and leadership skills
- Training an increased number of tradespeople who can either be employed or provide contracting services for producers, processors, and contractors; the main issue is a current lack of people that may continue to decrease in the future.

The following broad skills areas have been identified as current gaps and increasingly needed in the future:

- New and emerging technologies on farms, but also for processing/packing companies and in offices
- All aspects of crop and livestock production knowledge and agronomy at all levels on farms and for employees with agronomy service providers.

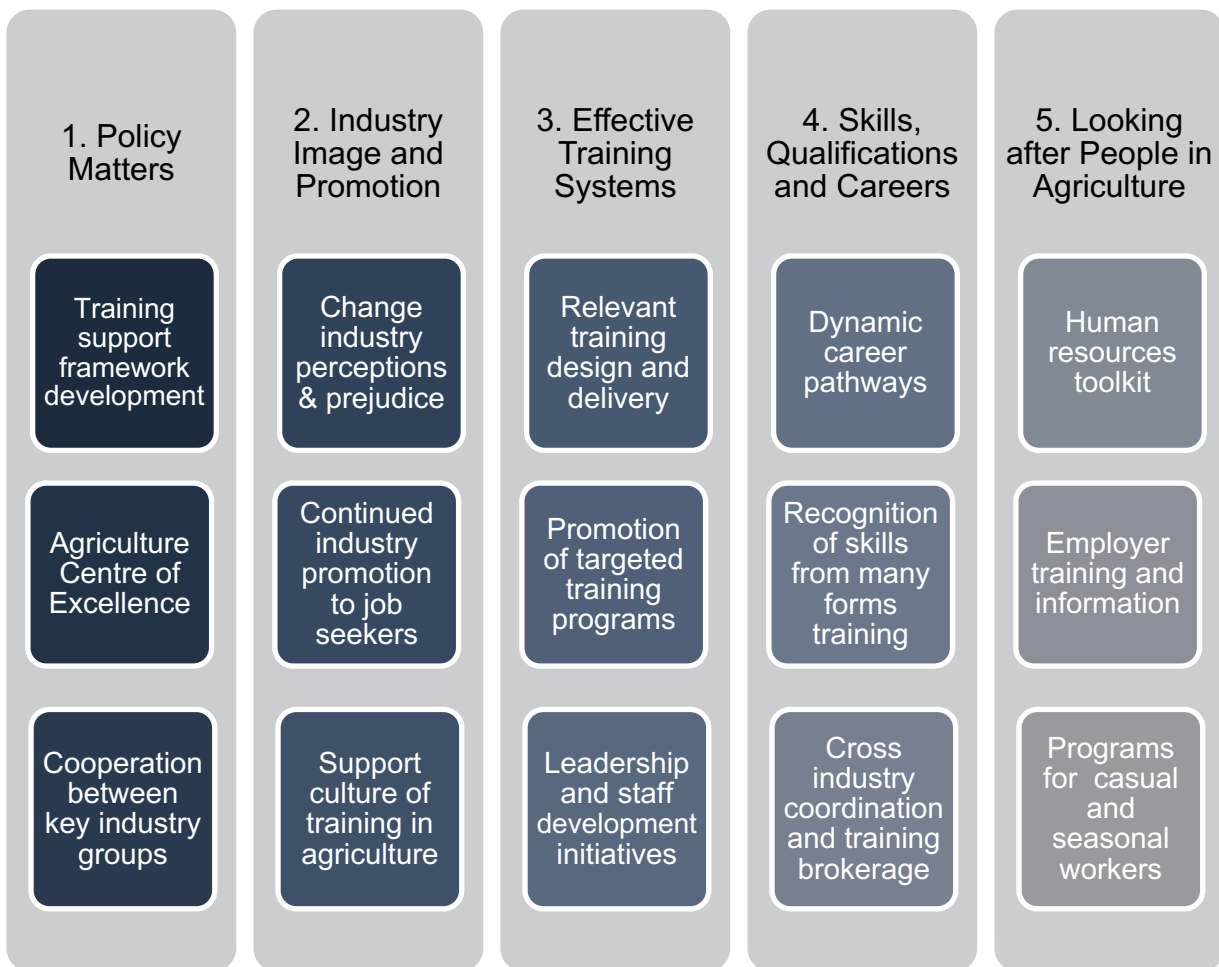
According to feedback, improvement of soft skills was a key requirement, and while this was voiced by employers who would like to see increased soft skills in their staff, interviewers and training providers commented on the need for overall improved soft skills in employers, especially in people management.

Skills gaps not specifically mentioned by interviewees, but identified as important to address, were the need for employers to better understand and deal with cultural diversity and generational differences as well as the way people are motivated, learn, and view work.

9.2 THE NORTH WEST AGRICULTURAL WORKFORCE DEVELOPMENT AND SUPPORT PLAN

This section outlines what industry, government and education and training providers can do to support the growth of a highly valued agricultural workforce in the North West region (Question 3²¹). It provides strategies to achieve a culture of training and delivery of the required training services.

The below diagram suggest strategies in five interrelated focus areas. Table 9-3 to Table 9-7 list tactics to consider by industry, the education and training sector and government. A shared responsibility, cooperation and industry leadership are vital to achieve the required change.



²¹ What industry, government, and education and training providers can do, to support the growth of a highly valued agricultural workforce in the North West region of Tasmania

Table 9-3: For Government to address

PILLAR 1: POLICY MATTERS	
Strategies	Tactics
Training support framework development	<ul style="list-style-type: none"> ▪ Create the 'Clever Careers in Agriculture' concept and give it meaning ▪ Continued government incentives and support for priority training to fill gaps in skills sets and competencies taught in the region: <ul style="list-style-type: none"> - Support initiatives for targeted 'train the trainer' programs, to upskill teachers and trainers in principles of adult learning, teaching and training for young adults, as well as innovative delivery of VET skill set/competency training required to fill gaps, including from new or reviewed training packages - Apprentice, traineeship, internship, vocational placement and graduate program position incentives - Sponsorship of targeted school programs above and beyond school gardens, continued support for agriculturally focussed school programs ▪ Support initiatives for training of employers, managers and supervisors to improve staff supervision and retention ▪ Making it easy to employ apprentices while making sure that workplaces and employers are adequate; consider training for employers (short course) or another type of support for employers who employ apprentices and trainees
Agriculture Centre of Excellence	<ul style="list-style-type: none"> ▪ Develop, over time, the Agriculture Centre of Excellence to become a nationally acknowledged training provider in agriculture by strengthening quality delivery of key training services that have been identified as lacking not only regionally but also state-wide and nationally. The main delivery mechanism should be digital and include face to face training at the Centre or/and, if possible, in major production regions (i.e., well trained and respected trainers travel to regional centres)
Cooperation between key industry groups	<ul style="list-style-type: none"> ▪ Formation of an advisory group with strong leadership and shared goals e.g. including TAGP, TFGA, FGT, WT, TWiA, Young Agricultural Professionals Network (YAPN) and representatives from the education and training sector

Table 9-4: For all sectors of industry, industry bodies, education and training providers and all levels of government to address

PILLAR 2: AGRI-FOOD INDUSTRY IMAGE AND PROMOTION	
Strategies	Tactics
Change industry perceptions and prejudice	<ul style="list-style-type: none"> ▪ Promotion of good news stories on opportunities ('Clever Careers'), industry future and the importance of the industry e.g. <i>solution to environmental challenges, people's health and well-being, food security, opportunities to develop many skills and have a career, cross sector opportunities</i> ▪ Common goals and collaboration between agricultural industry sectors, career initiatives and education and training providers from schools to universities (e.g. via Tasmanian Agricultural Education Network and industry associations) ▪ Celebrating industry successes and innovation, especially achievements of young people, e.g. apprenticeship/traineeship awards, innovation awards ▪ Reducing the amount of negative reporting about agriculture and the use of misleading images and phrases by informing media about the importance of the industry as a provider of food, fibre, and jobs, and avoiding public fighting ▪ Engage industry organisations in changing perceptions and prejudice, e.g. TFGA, TAPG, Rural Youth, Young Professionals in Agriculture Network, Tas Women in Agriculture; this includes reminding them of positive use of language and images
Continued industry	<ul style="list-style-type: none"> ▪ Skilled careers promotion platform/toolkits for schools, career advisers, and people who want to change industries/careers, inclusive of career case studies, career pathway documentation and industry specific information and resources

PILLAR 2: AGRI-FOOD INDUSTRY IMAGE AND PROMOTION

<p>promotion to job seekers</p>	<ul style="list-style-type: none"> ▪ Engage young and upcoming industry leaders to speak about their industry and their career using electronic media e.g. YouTube - In-school delivery of a careers promotion toolkit at priority schools 'Clever Careers' - Invite schools to attend suitable industry events with students, industry may sponsor schools to do so - Continuing school class visits to agricultural businesses and showcasing young people in the business - Ensuring agricultural industry career pages, e.g. Rural Skills Australia, MyCareer, My Skills, Harvest Trail, have engaging and up to date information about the diversity of careers and opportunities in different agricultural and horticultural sectors - 'Clever Careers' ▪ Exploring opportunities for industry to further engage with the Tasmanian Agricultural Educators Network (TAEN) to foster engagement between industry and the education sector ▪ Promotion of agriculture based resources for schools such as provided by the Primary Industries Education Foundation Australia (PIEFA) ▪ Targeted campaigning to attract people, e.g. those working in other industries, to the agricultural industry in the region to fill identified gaps ▪ Targeted campaigning to attract people working interstate, to the region to fill identified gaps ▪ Social media presence including Instagram and Twitter potentially via the Industry Training Hub Burnie, e.g. modelled on Carpentry Australia #ProudChippy
<p>Support a culture of training in agriculture</p>	<ul style="list-style-type: none"> ▪ Develop case studies showing the cost : benefit of training and or employing well trained people to industry ▪ Promote and support 'Clever Agriculture', the use of technology by trained people to increase productivity ▪ Ensure that employers understand that if employees are well trained and treated well, they are likely to stay or return

Table 9-5: For education and training providers and industry to address

PILLAR 3: EFFECTIVE TRAINING SYSTEMS (FORMAL AND INFORMAL)	
Strategies	Tactics
<p>Relevant training design and delivery</p>	<ul style="list-style-type: none"> ▪ Strengthen partnerships between key training providers, especially TasTAFE, other RTOs and University of Tasmania, to enable collaboration in course delivery, course promotion, infrastructure and technology availability, on-site/regional content delivery, delivery of course content within and, if required, in addition to existing Training Packages, Skill Sets, Competencies and University/College Courses ▪ Improve ease of access to and completion rate of Cert IV Training and Assessment by non-RTO trainers and industry members, especially by making it easier to get credits for previous experience ▪ Inform training and education providers of industry skill gaps and priorities; ensure RTOs know which training packages, skills sets, and competencies to deliver to ensure targeted course content and design (e.g. short courses) meet industry needs for the future ▪ Support informal training delivery through offering 'train the trainer' upskilling, and also connecting non RTO trainers who have the required technical skills to RTOs (who can offer assessments) to fill gaps, e.g. via the Industry Training Hub Burnie
<p>Promotion of targeted training programs</p>	<ul style="list-style-type: none"> ▪ Collaboration of training service providers, including tertiary, VET, and informal providers (not RTOs), for the promotion of training programs as well as apprenticeships, traineeships, and vocational placements linked to career pathways through a careers promotion platform, e.g. via the Industry Training Hub Burnie ▪ Promote formal training opportunities, including tertiary and VET with a focus on identified skills gaps amongst agricultural businesses; ensure businesses

PILLAR 3: EFFECTIVE TRAINING SYSTEMS (FORMAL AND INFORMAL)	
	<p>understand that RTO delivered training can be customised to their needs, as long as they have a commitment to attend and/or have employees attending</p> <ul style="list-style-type: none"> ▪ Promote training services in a way that attracts the groups of people that the agri-food industry wants to employ ▪ Support, foster, and encourage apprenticeship, traineeship, internship, and vocational placement programs to kick off 'Clever Careers' in Agri-food ▪ Improve communications about training opportunities including extension funded via RDC levy system
Leadership and staff development initiatives	<ul style="list-style-type: none"> ▪ Upskilling for employers, managers and supervisors especially in staff management, intergenerational management and creating a positive culture ▪ Continue to support and promote participation in established leadership and development initiatives, e.g. Tasmanian Leaders Program, Growing Leaders programs by RDCs, Masterclass in Horticultural Business ▪ Facilitate regional and international study exchange and networking opportunities for peer-to-peer learning ▪ Promote and support scholarships, e.g. Nuffield, Churchill, Australian Rural Leadership Foundation ▪ Develop a mentor program with Australian Rural Leadership Foundation and the Tasmanian Leaders ALUMNI, Tas Women in Agriculture, and the Young Professionals in Agriculture Network ▪ Develop internship programs ▪ Train the trainer programs for RTO teachers and trainers
Implementation of strategies at the Agriculture Centre of Excellence	<ul style="list-style-type: none"> ▪ Focus on filling identified priority training needs, being flexible and creative about effective delivery methods, use of trainers and industry experts as well as different locations as appropriate ▪ Training design and delivery to be tested against the key principles identified: <ul style="list-style-type: none"> - Relevance (focus on key topics, no need to 'sit' through training not needed) - Ease of access (location, time of day, and time of year) - Responsiveness and flexibility (adapt to changing needs) - Quality trainers (they need to 'know their stuff', be professional) - Affordability (cost : benefit balance) ▪ Offer leadership development, mentoring and coaching short courses for employers, managers and supervisors ▪ Consider preparatory/induction training for seasonal workers new to the industry or region covering common principles such as WH&S, food safety, chemical safety, biosecurity, behaviour and manners, personal safety, emergency response

Table 9-6: For industry and education and training providers to address

PILLAR 4: SKILLS, QUALIFICATIONS AND CAREER PATHWAYS	
Strategies	Tactics
Dynamic career pathways	<ul style="list-style-type: none"> ▪ Promote the dynamic and also non-linear career pathways for all levels of employment within agri-food industries; show that it is possible to move from operational to management positions ▪ Demonstrate entry and exit opportunities for Clever Careers with the agri-food industry across the supply chain i.e. show people that they can come to the industry from different backgrounds and also have opportunities in other industries, if trained in an agri-food sector ▪ Promote blended education and micro-credentials (e.g. via competency training and short courses in years 11 and 12, and for people in the workforce) ▪ Develop job and career case studies to attract people to work in agriculture: <ul style="list-style-type: none"> – Focus on areas of interest (e.g. technology, communication, trades, growing plants, accounting, sales, people, etc) and identified gaps rather than jobs or industries

PILLAR 4: SKILLS, QUALIFICATIONS AND CAREER PATHWAYS	
	<ul style="list-style-type: none"> – Profile and document real world examples of skilled workers across the agricultural industry at different career levels and examples – Promote and share case studies through industry promotion initiatives, including skilled careers promotion toolkit
Recognition of skills from many forms training	<ul style="list-style-type: none"> ▪ Ensure that employers, employees and those new to agri-food industries have a way of easily demonstrating skills and qualifications, e.g. via a skills and training ‘passport’ listing completed formal and informal training and competencies; the passport may be maintained via Tas TAFE but allow inclusion of training delivered by other RTOs, UTAS courses, and other industry courses
Cross industry coordination and training brokerage	<ul style="list-style-type: none"> ▪ Training brokerage – provide and promote central coordination (similar to current Industry Training Hub Burnie for year 11&12 model) that industry can access to get information about training offers and lodge training needs and where providers of formal and informal training can lodge training services/offers.

Table 9-7: For industry and education and training providers to address

PILLAR 5: LOOKING AFTER PEOPLE IN AGRICULTURE	
Strategies	Tactics
Human resources toolkit	<ul style="list-style-type: none"> ▪ Compile and document information sheets and templates for best practice human resource management to facilitate a consistent baseline of practice across the industry; the dairy industry has set a good example http://www.thepeopleindairy.org.au/eski-landing-page.htm. The toolkit should include information relating to: <ul style="list-style-type: none"> – Rights, responsibilities, entitlements – Recruitment, job description, induction and probation, retaining staff, record keeping – Pay rates and award classifications, flexibility – Performance management, dismissal, and redundancy – Workplace health and safety – Legal obligations
Employer training and information	<ul style="list-style-type: none"> ▪ Encourage employers to improve people management and good human resource management practices via engaging them in training (e.g. showcase successful employers) ▪ Provide a toolkit for employers which includes information relating to: <ul style="list-style-type: none"> – Recruitment – be an employer of choice – Job descriptions, outlining of job roles – Induction and probation – Pay rates and award classifications – People and performance management – Dismissal and redundancy – Workplace health and safety – Cultural awareness.
Programs for casual and seasonal workers	<ul style="list-style-type: none"> ▪ Induction training package including in languages other than English

References

References have been provided as footnotes throughout the report.

Appendix 1: Project flyer



North West Agricultural Workforce Plan

Do you employ people in the agricultural sector in North West Tasmania?

We'd like to hear from you about the type of jobs as well as skills and knowledge that your workers will need in the future.

RMCG and AK Consultants are currently working with Skills Tasmania to develop a North West Agricultural Workforce Plan. The Plan will:

- Identify the skill and knowledge requirements for opportunities in the agricultural sector
- Inform job seekers of the employment and career opportunities in the agricultural sector
- Inform industry, government, education and training providers of what actions need to be taken to support the growth of a highly skilled and high valued agriculture workforce in the North West region.

To achieve this RMCG and AK Consultants will be conducting 110 face to face interviews with local representatives from the education and training sector, industry groups and local producers, processors and service providers.

If you would like to be involved in this project and participate in the growth of the agricultural sector, please contact:

Sophie Lapsley
0426 200 996
sophie@rmcg.com.au

Michael Tempest
0467 452 155
michael@AKConsultants.com.au



The Agricultural Workforce Development plan is funded by the Australian Government under the \$3.9 million North-West Tasmania Job Generation Package

Appendix 2: North West Tasmania Profile

Value of production, or value added, is an indicator of business productivity within a sector (Profile id). In North West Tasmania, for the 2017/2018 year, it is estimated that the agriculture sector contributes 16.8% of the value added to the region. This is more than any other industry sector in the region. Table A2-1 shows the value added to the North West agricultural sector by the sub-sectors/commodities for 2015-16, while Table A2-2 shows the value added for each municipal area within the region for the same period, as a percentage of the total production.

Table A2-1 North West Value of Agricultural Production

COMMODITY	VALUE (\$)	VALUE (%)
Cereal	2,982,171	0.5
Other Broadacre Crops	5,541,111	1.0
Nurseries & Cut Flowers	14,056,565	2.5
Crops for Hay	13,257,261	2.3
Vegetables	107,198,401	18.9
Citrus Fruit	0	
Grapes (wine and table)	576,539	0.1
Other Fruit	38,010,299	6.7
Nuts	46,400	0.0
Wool	2,732,902	0.5
Milk	224,543,607	39.6
Eggs	970,070	0.2
Livestock Slaughtering	132,588,936	23.4
Total Value	\$567,406,550	100%

Data sourced from Profile id website, which uses ABS data, Value of Commodities Produced, Australia, 2015-2016, Cat No. 7503.0

Table A2-2: Municipal Value of Production per commodity as a percentage of the Northwest region

COMMODITY	BURNIE (%)	CENTRAL COAST (%)	CIRCULAR HEAD (%)	DEVONPORT (%)	KENTISH (%)	KING ISLAND (%)	LATROBE (%)	WARATAH WYNYARD (%)	WEST COAST (%)
Cereal	10.8	19.5	25.1	2.3	5.2		18.0	19.0	
Other Broadacre Crops	7.5	12.9	13.6	4.8	12.0		25.9	23.2	
Nurseries & Cut Flowers	6.6	21.8	0.7	1.8	0.2		9.7	59.2	
Crops for Hay	9.3	12.6	47.9	0.6	10.1	6.3	8.3	4.9	
Vegetables	10.1	23.7	7.1	14.1	2.3	0.0	27.5	15.2	
Citrus Fruit									
Grapes (wine and table)		0.1		13.5	16.5		69.9		
Other Fruit	0.0	55.2	0.4	17.5	0.2		26.6	0.0	
Nuts	0.2		1.2					98.6	
Wool	3.9	8.3	2.7	2.9	12.7	25.6	35.9	7.8	
Milk	3.4	6.3	71.7	0.1	3.7	1.9	1.7	11.1	
Eggs	0.1	0.2	0.9		27.2	0.1	0.3	71.2	
Livestock Slaughtering	4.8	7.6	53.2	0.5	4.4	27.8	0.5	0.5	0.7
Total NW %	4.9	13.6	43.6	4.1	3.5	7.5	10.9	11.6	0.2

Data sourced from Profile id website, which uses ABS data, Value of Commodities Produced, Australia, 2015-2016, Cat No. 7503.0

NUMBER OF BUSINESSES

To determine the number of businesses for each sub-sector/commodity for the Agriculture sector across the North West, ABS Agricultural Commodities data 2015-16 (Cat No. 7121.0) has been used. This data provides individual business numbers for each commodity type, see Table A2-3. It is important to note that the total number of businesses per region is less than the combined number of business for the commodities within a region. This is because individual agricultural businesses will commonly produce multiple commodities and thus have multiple enterprises, which is reflected in the data. It is also important to note that only businesses with an estimated value of agricultural production of \$40,000 or greater are included in this data.

Table A2-3: Number of Agricultural Businesses and Enterprises across the North West Region

COMMODITY	BURNIE	CENTRAL COAST	CIRCULAR HEAD	DEVONPORT	KENTISH	KING ISLAND	LATROBE	WARATAH WYNYARD	WEST COAST	NORTH WEST REGION
Total Businesses	82	155	218	30	88	80	88	106	1	848
Broadacre crops	14	28	10	6	12	1	38	19	0	127
Nurseries & cut flowers	3	7	0	1	0	0	3	7	0	21
Crops for hay	47	77	119	8	55	33	49	52	1	439
Vegetables	30	63	13	15	10	1	47	28	0	205
Grapes (wine and table)	0	0	0	2	3	0	2	0	0	6
Other fruit & nuts	1	5	3	6	1	0	6	1	0	23
Sheep (livestock slaughtering & wool production)	11	24	13	6	29	13	44	14	0	154
Milk	17	30	130	1	21	10	63	51	0	272
Eggs	1	2	1	0	5	1	1	1	0	14
Meat cattle	57	96	127	14	60	73	56	52	1	536
Other livestock	6	10	13	1	6	1	6	7	0	56
Total Enterprises	269	497	647	90	290	213	403	338	3	1853

Data sourced from ABS website, Agricultural Commodities, Australia, 2015-2016, Cat No. 7121.0

DETERMINING INTERVIEW DISTRIBUTION

The above sets of data have been utilised to inform the interview distribution across the commodities and Municipalities. Of the 110 required interviews, it was proposed that 80 were made up of participants representing the above commodities/enterprises with the remaining 30 being made up of service providers and food/beverage processors.

Formula

The first step was to make the sets of data as compatible as possible. To do this, the following Value of Production categories were combined; cereal cropping and other broadacre cropping, because these are not separated for the business numbers data; sheep slaughtering and wool; grapes, other fruit, and nuts. Livestock slaughtering was split into; cattle, sheep, and other. These figures were obtained from the Profile id website. Citrus fruit was removed.

Then the percentage of contribution to the total regional value of production of each commodity/enterprise was applied as a percentage to the 80 interviews (Table A2-4).

Table A2-4: Number of Interviews Per Commodity/Enterprise

COMMODITY	VALUE ADD \$	% OF NORTH WEST	NO OF INTERVIEWS
Broadacre crops	8,523,282	1.5%	1
Nurseries & cut flowers	14,056,565	2.5%	2
Crops for hay	13,257,261	2.3%	2
Vegetables	107,198,401	18.9%	15
Fruit	38,633,238	6.8%	5
Wool & sheep slaughtering	4,206,100	0.7%	2
Milk	224,543,607	39.6%	32
Eggs	970,070	0.2%	1
Cattle	131,100,197	23.1%	19
Other slaughtering	15,541	0.0%	1
Total	567,406,550	100%	80

Then the total businesses within each commodity/enterprise for each municipal area were converted to a percentage of the total number of businesses for each commodity/enterprise across the region, see Table A2-5.

Table A2-5: Percentage of Businesses for Each Commodity across each Municipal Area

COMMODITY	BURNIE %	CENTRAL COAST %	CIRCULAR HEAD %	DEVONPORT %	KENTISH %	KING ISLAND %	LATROBE %	WARATAH WYNYARD %	WEST COAST %
Broadacre crops	9.7%	18.3%	25.7%	3.5%	10.4%	9.4%	10.4%	12.5%	0.1%
Nurseries & cut flowers	11.0%	22.0%	7.9%	4.7%	9.4%	0.8%	29.9%	15.0%	0.0%
Crops for hay	14.3%	33.3%	0.0%	4.8%	0.0%	0.0%	14.3%	33.3%	0.0%
Vegetables	10.7%	17.5%	27.1%	1.8%	12.5%	7.5%	11.2%	11.8%	0.2%
Grapes (wine and table)	14.6%	30.7%	6.3%	7.3%	4.9%	0.5%	22.9%	13.7%	0.0%
Other fruit & nut	3.3%	16.7%	10.0%	26.7%	13.3%	0.0%	26.7%	3.3%	0.0%
Sheep (livestock slaughtering & wool production)	7%	16%	8%	4%	19%	8%	29%	9%	0%
Milk	5%	9%	40%	0%	7%	3%	20%	16%	0%
Eggs	8%	17%	8%	0%	42%	8%	8%	8%	0%
Meat cattle	11%	18%	24%	3%	11%	14%	10%	10%	0%
Other livestock	12%	20%	26%	2%	12%	2%	12%	14%	0%

Then the percentage splits of the commodity/enterprises across the Municipalities was used to determine how many interviews for each commodity/enterprise should be conducted in each Municipality. For enterprises that were only designated 1 or 2 interviews, these were allocated to the municipal areas with the highest percentages of businesses for that enterprise. The proposed separation of interviews is displayed in Table A2-6.

Table A2-6: Proposed Interview Split

COMMODITY	BURNIE	CENTRAL COAST	CIRCULAR HEAD	D' PORT	KENTISH	KING ISLAND	LATROBE	WARATAH WYNYARD	WEST COAST
Broadacre crops	0	0	1	0	0	0	0	0	0
Nurseries & cut flowers	0	1	0	0	0	0	0	1	0
Crops for hay	0	1	1		0	0	0	0	0
Vegetables	2	5	1	1	1	0	3	2	0
Fruit	0	1	1	1	1	0	1	0	0
Sheep (livestock slaughtering & wool production)	0	0	0	0	1	0	1	0	0
Milk	2	3	13	0	2	1	6	5	0
Eggs	0	0	0	0	1	0	0	0	0
Meat cattle	2	3	5	0	2	3	2	2	0
Other livestock	0	0	1	0	0	0	0	0	0
Total Interviews	6	14	22	2	8	4	14	10	0

- There is scope to adjust the proposed spread of interviews based on local knowledge and availability of participants. For example, there are currently no interviews proposed for West Coast, however, it may be warranted to reduce the number of meat cattle interviews in other areas to allow for two interviews in this area.
- It is also anticipated that a number of interviewees will run businesses that farm multiple commodities/enterprises. However, each interviewee should only represent one commodity/enterprise for that area, not two, or three if they have multiple enterprises occurring.

Service Sector and Processing Split

Below is a potential split of the remaining 30 interviews for the service sector and processing. This is not based on data.

Potential split:

- Food/beverage Processors - 8
- Machinery Sales and Service - 3
- Agronomists - 4
- General Ag Merchants - 2
- Cropping Contractors - 3
- Earth Moving/Dam Building Contractors - 2
- Ag Consultants/Surveyors/Engineers - 3
- Business Management Support - 2
- Irrigation Businesses - 3.

Business Employee Numbers

To gain an understanding of the size of businesses based on number of employees, Australian Business Register data has been used. This is specifically available in the ABS data release Counts of Australian Businesses, including Entries and Exits (Cat no. 8165.0). Table A2-7 shows business sizes across each Council area and the region as a whole. When viewing this data, there are a couple of key considerations to keep in mind. Firstly, this data is showing business details for agriculture, forestry, and fishing and has not been sourced where businesses can be split into the agricultural subsectors as has occurred above in Table A2-3. This data is also based on ABN data, not agricultural commodity data.

Table A2-7: Agriculture, Forestry and Fishing Business Count and Employee Size Ranges

AREA	NON – EMPLOYING	1-19 EMPLOYEES	20-199 EMPLOYEES	200+ EMPLOYEES	TOTAL
Burnie	99	37	3	0	138
Central Coast	267	90	5	0	361
Circular Head	269	178	5	0	455
Devonport	69	26	9	0	102
Kentish	170	35	0	0	203
King Island	103	55	0	0	157
Latrobe	128	61	11	0	193
Waratah - Wynyard	164	70	4	0	239
West Coast	9	7	0	0	21
North West Total	1,278	559	37	0	1,869
North West %	68%	30%	2%	0%	

Data sourced from ABS website, Counts of Australian Businesses, including Entries and Exits, June 2014 to June 2018, Cat No. 8165.0

Based on the above data, it is evident that over two thirds of businesses within the sector are non-employing. While, in general, these types of businesses will not be the businesses targeted for participation within this project, based on the above figures it will be important to include at least a few of these types of businesses to gauge whether these businesses are intending to expand over the next five years. In general, the majority of participants targeted should be from the 1-19 number of employee range, with larger employers targeted wherever possible.

Appendix 3: Survey form

1. Interviewer's name?

2. Has a signed consent form been provided?

Yes

No

3. Do you consent to us contacting you if we have further questions and to provide you with updates on the project?

Yes

No

4. Your contact details

Name

Position in the business

Legal business name

Email

Telephone

5. In which town/s or localities are your main business operations?

Burnie

Central Coast

Circular Head

Devonport

Kentish

King Island

Latrobe

Waratah/Wynyard

West Coast

6. Which industry is the main contributor to your enterprise?

Nursery & Floriculture

Poultry

Vegetable & Mushroom

Deer Farming

Mixed Farming

Other Livestock

Fruit & Tree Nut

Extractive Crops

Sheep, Beef Cattle & Grain

Viticulture

Dairy

Other (please specify)

7. Select ALL farming enterprises within your business

- Nursery
- Flowers
- Mushrooms
- Vegetables
- Herbs
- Fruit
- Nuts
- Sheep Meat
- Sheep wool
- Beef cattle
- Grain
- Hay & Fodder
- Dairy cattle breeding
- Dairy Milk Production
- Poultry meat
- Poultry eggs
- Extractive crops (poppies, pyrethrum)
- Viticulture
- Horses
- Goats
- Pigs
- Bees
- Other (please specify)

8. What best describes your business?

- Producer/grower
- Processor
- Contractor
- Other (please specify)
- Sales (wholesale, retail)
- Professional service (Agronomist, ag consultant)
- Technical service (IT, irrigation, farm equipment)
- Labour hire

9. What is the business structure of your main operating business?

- Public Company
- Private Company
- Partnership
- Trust
- Other (please specify)
- Sole Proprietor
- Co-operative
- Incorporated Association
- Government Business Enterprise

10. What is your estimated annual spend on training in the last couple of years?

11. What is your training **BUDGET** as a percentage of total wages?

	Nil	Adhoc	<1%	1%-3%	4%-6%	7%-8%	9%-10%	>10%	N/A
Budget range (\$)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

12. Do you have a Strategic Plan?

- Yes, documented
- Yes, in my head
- No
- Unsure

Comments

13. Does the Strategic Plan specifically include staff and training?

- Yes
- No
- Unsure
- Not Applicable (no Strategic Plan)

Comments

14. If you are a producer, how many hectares is your operation?

15. What range does your annual turnover fall into?

- | | |
|---------------------------------------|-----------------------------------|
| <input type="radio"/> <\$250K | <input type="radio"/> \$1m - \$3m |
| <input type="radio"/> \$250K - \$500K | <input type="radio"/> \$3m - \$5m |
| <input type="radio"/> \$500K - \$1m | <input type="radio"/> >\$5m |

Comments

16. To what extent

	large decline	some decline	stayed static	some growth	large growth
Has the business experienced growth or decline in the last 5 years?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have employee numbers increased or reduced in the last 5 years?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

17. What is the total number of staff?

Total number of staff

Total in FTE (if known; or if easy to estimate)

18. How many staff are in each employee type?(numbers of staff)

Permanent - full time	<input style="width: 400px;" type="text"/>
Permanent - part time	<input style="width: 400px;" type="text"/>
Fixed term - full time	<input style="width: 400px;" type="text"/>
Fixed term - part time	<input style="width: 400px;" type="text"/>
Casual	<input style="width: 400px;" type="text"/>
Labour hire	<input style="width: 400px;" type="text"/>
Apprentice/trainee	<input style="width: 400px;" type="text"/>
Owners not on the pay role	<input style="width: 400px;" type="text"/>
Family members not on the pay role	<input style="width: 400px;" type="text"/>
Other	<input style="width: 400px;" type="text"/>

21. If you use professional services, describe the services you use? and why you use them?

1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>

22. If you use labour hire, what types of work do you use them for? and in what months?

1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>
6	<input type="text"/>

23. Do you use the Apprenticeship System?

- Yes
 No

Why?

24. Do you employ seasonal workers? (*enter numbers*)

No of seasonal workers - LOCAL	<input type="text"/>
No of seasonal workers - VISA	<input type="text"/>
No of seasonal workers - Not sure if local or otherwise	<input type="text"/>
Comments	<input type="text"/>

25. Do you prefer to access your seasonal workforce locally or via fly-in/backpackers/visa workers, and why?

26. For seasonal workers, what percentage are return workers?

27. How many staff do you have in the different job roles?

Maintenance

Operational

Pickers

Packers

General Farm Labour

Livestock Farm Labour

Agronomy

Professional Services

HR

Marketing

OH&S

Office/Business Admin

Supervisory

Management, Leadership

Factory workers

Other

Other

Other

Other

Other

28. How many staff do you think you will have in the different job areas in 5 years time?

Maintenance

Operational

Pickers

Packers

General Farm Labour

Livestock Farm Labour

Agronomy

Professional Services

HR

Marketing

OH&S

Office/Business Admin

Supervisory

Management, Leadership

Factory workers

Other

Other

Other

Other

Other

29. What is the age and gender of all staff?*(in numbers ie 10M (male) 5F(female)*

<20 yrs

20-29 yrs

30-39 yrs

40-49 yrs

50-59 yrs

60+ yrs

30. How many hires have you made in the last 12 mths?*(numbers)*

Hires that have been to replace staff that have left

Hires that are for new roles

31. What characteristics are you looking for in staff ? (ie punctuality, work ethic, loyalty)

32. What skills do current staff need to have in your business?

Maintenance

Operational

Pickers

Packers

General Farm Labour

Livestock Farm Labour

Agronomy

Professional Services

HR

Marketing

OH&S

Office/Business Admin

Supervisory

Management, Leadership

Factory workers

Other

Other

Other

Other

Other

33. What qualifications do your staff need (as per roles in previous question)? (e.g. Cert, Licence etc)

Maintenance

Operational

Pickers

Packers

General Farm Labour

Livestock Farm labour

Agronomist

Professional Services

HR

Marketing

OH&S

Office/Business Admin

Supervisory

Management, Leadership

Factory Workers

Other

Other

Other

Other

Other

34. In the next 5 years will there be any changes in the skills or qualifications you look for (capture the reason)

Skills

Qualifications

Other Comments

35. In the last 2 years how difficult has it been to fill roles (rate out of 5, where 1 is very difficult and 5 is very easy)? and why?

Maintenance

Operational

Pickers

Packers

General Farm Labour

Livestock Fram Labour

Agronomy

Professional Services

HR

Marketing

OH&S

Office/Business Admin

Supervisory

Management, Leadership

Factory workers

Other

Other

Other

Other

36. What skills do you think your current staff are missing in their various roles?*[i.e. the gaps]*

Maintenance	
Operational	
Pickers	
Packers	
General Farm Labour	
Livestock Farm Labour	
Agronomy	
Professional Services	
HR	
Marketing	
OH&S	
Office/Business Admin	
Supervisory	
Management, Leadership	
Factory workers	
Other	
Other	
Other	
Other	
Other	

37. How many of your staff over the last 2 years have undertaken the following types of training and education? *(describe the training and enter the numbers)*

None	<input type="text"/>
Cert in school	<input type="text"/>
Compliance Training	<input type="text"/>
Specific licences	<input type="text"/>
Cert I	<input type="text"/>
Cert II	<input type="text"/>
Cert III	<input type="text"/>
Cert IV	<input type="text"/>
Diploma	<input type="text"/>
Associate Degree or Advanced Diploma	<input type="text"/>
Bachelor Degree	<input type="text"/>
Graduate Diploma or Certificate	<input type="text"/>
Masters Degree	<input type="text"/>
Doctoral Degree	<input type="text"/>
Short courses	<input type="text"/>
On the job - provided by the business	<input type="text"/>
Apprenticeship	<input type="text"/>
Other	<input type="text"/>
Comments	<input type="text"/>

38. What barriers, if any, have there been to staff attending training?

39. What training have you tried to find in the last 2 years? How easy or difficult was this to find (rate out of 5, where 1 is very difficult and 5 is very easy)? and why?

[enter description of training, rating and why]

Example 1	
Example 2	
Example 3	
Example 4	
Example 5	
Example 6	

40. What do you feel are the strengths of available training?(short answers) *(interviewers note if it is a specific training option)*

1	
2	
3	
4	
5	

41. What do you feel are the weaknesses of available training?(interviewers note if it is a specific training option)

1	
2	
3	
4	
5	

42. What training have you or your staff undertaken that has been a stand out and why?

--

43. To prepare for the future, how likely is the business to adopt each of these strategies in the next 5 years?

	highly likely	likely	unsure	unlikely	highly unlikely
Expand the business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep the business as it is now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wind down the business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Owners to retire soon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sell the business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diversify the business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

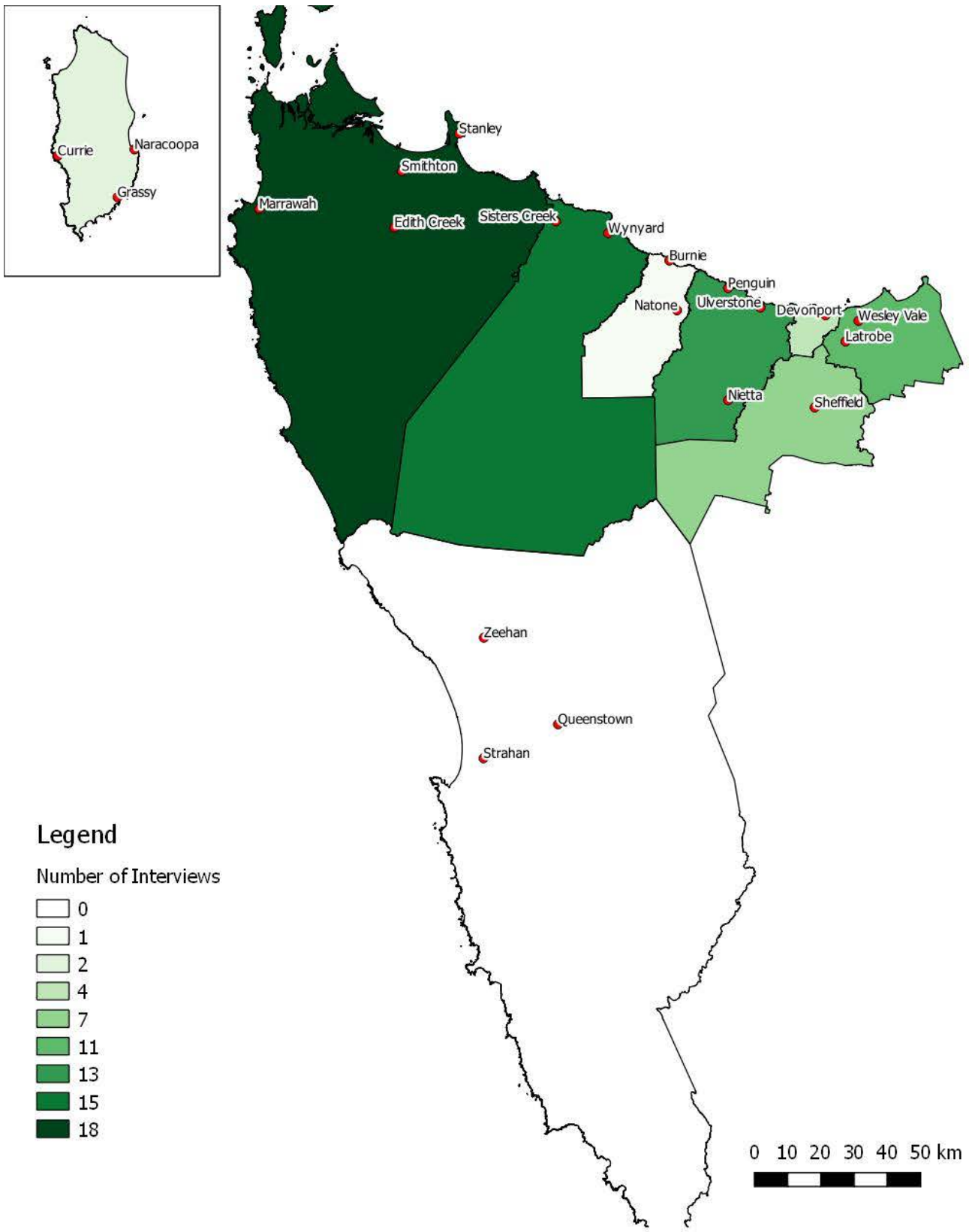
44. Is there anything in the short term you can suggest that would improve training of staff in your business?

45. In an ideal world what type of team would you like to employ over the next 5 years, specifically thinking about the skill sets they would possess to assist with achieving business goals?

46. Are there any other businesses you think we should talk to?

47. Do you have any other comments?

Appendix 4: Interview numbers by LGA



Map Name: Interviews Per Municipality
 Project: NWA WDP
 Client: Skills Tasmania

Municipal Areas from LIST
 Towns from LIST (C) State of Tas



Appendix 5: Training for agriculture overview

CURRENT TASTAFE AGRICULTURE COURSES (WEBSITE)

- Food for thought
 - <https://study.tas.gov.au/study/tastafe/> - does not have agriculture courses in list on home page
 - https://www.training.com.au/agriculture-courses/?gclid=EAlaIQobChMlIdfXjJ3z5wIVw5SPCh1ttw-wEAAYASAAEgJUyvD_BwE
 - TasTafe Student Guide 2020
<https://doccentre.tastafe.tas.edu.au/Documents/TasTAFE%20Student%20Information%20GUIDE%202020.pdf>

APPRENTICESHIPS AND TRAINEESHIPS AGRICULTURE AND HORTICULTURE

- AHC20116 Certificate II in Agriculture
- AHC20316 Certificate II in Production Horticulture
- AHC30116 Certificate III in Agriculture
- AHC30216 Certificate III in Agriculture (Dairy Production)
- AHC32016 Certificate III in Beekeeping
- AHC40116 Certificate IV in Agriculture
- Short Course - ChemCert (Keep Safe – Be Chemically Aware) Short course
- CPPSEC3008A Control security risk situations using firearms Short course
- Short Course Cups On Cups Off Short course
- AHC51416 Diploma of Agribusiness Management
- AHC50116 Diploma of Agriculture
- Short Course Driving on Gravel Roads and Unsealed Surfaces Short course
- Short Course Fencing: Built to Last Short course
- NONC0165A Firearms Licence Course – Tasmania Short course
- AHCMOM213 Operate and maintain chainsaws Short course
- AHCINF302 Plan and construct an electric fence Short course
- AHCMOM217 Quad Bike Training Short course
- AHCMOM202 Tractor Operations Short course

TASTAFE ANIMAL STUDIES COURSES

- ACM20117 Certificate II in Animal Studies
- ACM30117 Certificate III in Animal Studies
- Skill Set Wildlife Rescue – Rehabilitation – Release

TASTAFE THE WOOL INDUSTRY COURSES

- AHC21316 Certificate II in Shearing
- AHC21416 Certificate II in Wool Handling
- AHC33116 Certificate III in Advanced Wool Handling
- AHC32916 Certificate III in Shearing
- AHC41316 Certificate IV in Wool Classing

TASTAFE VITICULTURE COURSES

- FBP20518 Certificate II in Wine Industry Operations
- FBP30918 Certificate III in Wine Industry Operations

ABOUT THE DEVELOPMENT OF VET COURSES

Skills Impact

Skills Impact is a not-for-profit organisation that works across Australia to benchmark learning and skills standards for industry. The organisation captures information about skills (training) gaps, emerging markets and changing work methods as well as views about what is working in the training sector, what needs changing, and possible avenues for improvement. Most of this information is documented in sectoral Skills Forecasts and submitted to the Australian Industry and Skills Committee (AISC) each year. From this information, Training Package (vocational units of competency, skill sets, qualifications) development and review projects are determined and funded by the government. Finalised training packages are then accredited for delivery by VET providers. Further information can be found at www.skillsimpact.com.au .

Relevant Training Packages and Skills Sets are:

AHC10 - Agriculture, Horticulture and Conservation and Land Management (Release 8.0) (see Handout)

Relevant newly designed and reviewed Packages and Skills Sets under Agriculture and Production Horticulture IRC:

- Ag Machinery – Safety & Technology Project
- Carbon & Agribusiness Management Project
- Pest Management Project (cert III)
- Apiculture (Bees) Project
- Horticulture Technology Project (protected cropping)
- Viticulture Project (Diploma)

Relevant newly designed and reviewed Packages and Skills Sets under Amenity Horticulture, Landscaping, Conservation & Land Management IRC

- Sports Turf Management Project
- Ag Chemical Handling Project

Other newly designed and reviewed Packages and Skills Sets

- Animal Care and Management IRC
- Meat IRC
- Aquaculture and Wild Catch IRC
- Forest Management and Harvesting IRC

Current Cross Sector Projects to review Packages and design new ones:

- Environmental Sustainability Skills Case for Change
- Automation Skills Case for Change

Other Cross Sector Projects

The Australian Industry Skills Committee (AISC) identified six other across-industry projects, which were managed by other government-appointed Skills Service Organisations. These projects examined the workforce skilling implications of:

- Big data skills – visit PwC Skills for Australia for more information
- Coding skills – visit IBSA Manufacturing for more information
- Consumer engagement through social and online media – visit Skills IQ for more information
- Cyber security – visit PwC Skills for Australia for more information
- Supply chain skills – visit Australian Industry Standards for more information
- Teamwork and communication – visit PwC Skills for Australia for more information.

PUBLIC INFORMATION ON AG TRAINING

- https://www.training.com.au/agriculture-courses/?gclid=EAIaIQobChMIldfXjJ3z5wIVw5SPCh1ttw-wEAAYASAAEgJUyvD_BwE
- https://www.tafecourses.com.au/courses/agriculture/?gclid=EAIaIQobChMIldfXjJ3z5wIVw5SPCh1ttw-wEAAYAiAAEgIlyvD_BwE
- <http://www.ruralskills.com.au/>

UTAS EDUCATION

Agriculture degrees and courses

- Bachelor Degree
 - Bachelor of Agricultural Science
 - Bachelor of Applied Science (Agriculture and Business)
- Bachelor Degree with Honours
 - Bachelor of Agricultural Science with Honours (1-year honours program)
- Associate Degree
 - Associate Degree in Agribusiness
 - Associate Degree in Applied Science
- Diploma
 - Diploma of Agribusiness
 - Diploma in Applied Science
 - Diploma of Sustainable Living
- Pathways
 - Diploma of University Studies (Science Specialisation)
 - University Preparation Program (UPP)

UTAS Environment degrees and courses

- Bachelor Degree
 - Bachelor of Applied Science (Environmental Science)
 - Bachelor of Arts (Geography and Environment major)
 - Bachelor of Natural Environment and Wilderness Studies
 - Bachelor of Natural Environment and Wilderness Studies - Catalyst Program
 - Bachelor of Science (Geography and Environment major)
 - Bachelor of Science - Catalyst Program
 - Bachelor of Surveying and Spatial Sciences
 - Bachelor of Science (GIS and Remote Sensing major)
- Bachelor Degree with Honours
 - Bachelor of Applied Science (Professional Honours in Environmental Management)
 - Bachelor of Arts with Honours
 - Bachelor of Arts with Professional Honours (Specialisation)
 - Bachelor of Natural Environment and Wilderness Studies with Honours
 - Bachelor of Surveying and Spatial Sciences with Honours
 - Bachelor of Science with Honours (1-year honours program)
- Combined Degree
 - Bachelor of Arts and Bachelor of Business
 - Bachelor of Arts and Bachelor of Economics
 - Bachelor of Arts and Bachelor of Fine Arts
 - Bachelor of Arts and Bachelor of Information and Communication Technology
 - Bachelor of Arts and Bachelor of Laws
 - Bachelor of Arts and Bachelor of Science
 - Bachelor of Business and Bachelor of Science
 - Bachelor of Economics and Bachelor of Science
 - Bachelor of Information and Communication Technology and Bachelor of Science
 - Bachelor of Science and Bachelor of Laws
 - Bachelor of Science and Bachelor of Engineering (Specialisation) with Honours in Engineering
- Associate Degree
 - Associate Degree in Applied Science
- Diploma
 - Diploma of Arts (Geography and Environment major)
 - Diploma of Sustainable Living
- Pathways
 - Diploma of University Studies (Science Specialisation).

Appendix 6: Tas TAFE registrations

Qualifications and Units of Competency Tas TAFE is registered to deliver and assess.

Qualifications

CODE	TITLE
ACM20117	Certificate II in Animal Studies
ACM30117	Certificate III in Animal Studies
AHC10316	Certificate I in Horticulture
AHC20116	Certificate II in Agriculture
AHC20316	Certificate II in Production Horticulture
AHC20416	Certificate II in Horticulture
AHC21016	Certificate II in Conservation and Land Management
AHC21316	Certificate II in Shearing
AHC21416	Certificate II in Wool Handling
AHC30116	Certificate III in Agriculture
AHC30216	Certificate III in Agriculture (Dairy Production)
AHC30616	Certificate III in Production Horticulture
AHC30716	Certificate III in Horticulture
AHC30916	Certificate III in Landscape Construction
AHC31416	Certificate III in Conservation and Land Management
AHC31818	Certificate III in Beekeeping
AHC32916	Certificate III in Shearing
AHC33116	Certificate III in Advanced Wool Handling
AHC40116	Certificate IV in Agriculture
AHC40316	Certificate IV in Production Horticulture
AHC40416	Certificate IV in Horticulture
AHC40916	Certificate IV in Conservation and Land Management
AHC41316	Certificate IV in Wool Classing
AHC50116	Diploma of Agriculture
AHC50316	Diploma of Production Horticulture
AHC50416	Diploma of Horticulture
AHC51016	Diploma of Sports Turf Management
AHC51116	Diploma of Conservation and Land Management
AHC51416	Diploma of Agribusiness Management

CODE	TITLE
AUR30716	Certificate III in Outdoor Power Equipment Technology
AUR31116	Certificate III in Heavy Commercial Vehicle Mechanical Technology
AUR31216	Certificate III in Mobile Plant Technology
BSB10115	Certificate I in Business
BSB20115	Certificate II in Business
BSB30115	Certificate III in Business
BSB30315	Certificate III in Micro Business Operations
BSB30415	Certificate III in Business Administration
BSB30715	Certificate III in Work Health and Safety
BSB40215	Certificate IV in Business
BSB41015	Certificate IV in Human Resources
BSB41415	Certificate IV in Work Health and Safety
BSB41419	Certificate IV in Work Health and Safety
BSB41515	Certificate IV in Project Management Practice
BSB42015	Certificate IV in Leadership and Management
BSB42615	Certificate IV in New Small Business
BSB42618	Certificate IV in New Small Business
BSB51315	Diploma of Work Health and Safety
BSB51319	Diploma of Work Health and Safety
BSB51415	Diploma of Project Management
BSB51918	Diploma of Leadership and Management
CPC20112	Certificate II in Construction
CPC30211	Certificate III in Carpentry
CPC30313	Certificate III in Concreting
CPC30318	Certificate III in Concreting
CPC30611	Certificate III in Painting and Decorating
CPC31211	Certificate III in Wall and Ceiling Lining
CPC31311	Certificate III in Wall and Floor Tiling
CPC32011	Certificate III in Carpentry and Joinery
CPC32413	Certificate III in Plumbing
CPC32513	Certificate III in Plumbing (Mechanical Services)
CPC32612	Certificate III in Roof Plumbing
CPC32713	Certificate III in Gas Fitting
CPC40110	Certificate IV in Building and Construction (Building)

CODE	TITLE
CPC40912	Certificate IV in Plumbing and Services
CPP50911	Diploma of Building Design
FBP20518	Certificate II in Wine Industry Operations
FBP30117	Certificate III in Food Processing
FBP30918	Certificate III in Wine Industry Operations
FDF30411	Certificate III in Wine Industry Operations
FNS30317	Certificate III in Accounts Administration
FNS40217	Certificate IV in Accounting and Bookkeeping
FNS50217	Diploma of Accounting
FSK10113	Certificate I in Access to Vocational Pathways
FSK10213	Certificate I in Skills for Vocational Pathways
FSK20113	Certificate II in Skills for Work and Vocational Pathways
FWP20216	Certificate II in Harvesting and Haulage
FWP30216	Certificate III in Harvesting and Haulage
ICT40215	Certificate IV in Information Technology Support
ICT40315	Certificate IV in Web-Based Technologies
ICT40418	Certificate IV in Information Technology Networking
ICT41015	Certificate IV in Computer Systems Technology
ICT50418	Diploma of Information Technology Networking
ICT60515	Advanced Diploma of Computer Systems Technology
MEM20105	Certificate II in Engineering
MEM20205	Certificate II in Engineering - Production Technology
MEM20219	Certificate II in Engineering - Production Technology
MEM20413	Certificate II in Engineering Pathways
MEM30205	Certificate III in Engineering - Mechanical Trade
MEM30219	Certificate III in Engineering - Mechanical Trade
MEM30305	Certificate III in Engineering - Fabrication Trade
MEM30319	Certificate III in Engineering - Fabrication Trade
MEM30505	Certificate III in Engineering - Technical
MEM40105	Certificate IV in Engineering
MEM40119	Certificate IV in Engineering
MEM40412	Certificate IV in Engineering Drafting
MEM50105	Diploma of Engineering - Advanced Trade
MEM50119	Diploma of Engineering - Advanced Trade

CODE	TITLE
MEM50212	Diploma of Engineering - Technical
MSF30313	Certificate III in Timber and Composites Machining
MSL30118	Certificate III in Laboratory Skills
MSL40118	Certificate IV in Laboratory Techniques
MSL50116	Diploma of Laboratory Technology
MSL50118	Diploma of Laboratory Technology
TAE40116	Certificate IV in Training and Assessment
TLI32416	Certificate III in Logistics
TLI42016	Certificate IV in Logistics
UEE20111	Certificate II in Split Air-conditioning and Heat Pump Systems
UEE22011	Certificate II in Electrotechnology (Career Start)
UEE30811	Certificate III in Electrotechnology Electrician
UEE31211	Certificate III in Instrumentation and Control
UEE32211	Certificate III in Air-conditioning and Refrigeration

Units of competency

CODE	TITLE
CHCEDU013	Facilitate adult learning and development
CHCLLN002	Support adult language and literacy learning
CHCLLN003	Support adult numeracy learning
CPCCLHS3001A	Licence to operate a personnel and materials hoist
CPCCLHS3002A	Licence to operate a materials hoist
CPCCWHS1001	Prepare to work safely in the construction industry
FSKLRG001	Prepare to participate in a learning environment
FSKLRG002	Identify strategies to respond to short and simple workplace problems
FSKLRG007	Use strategies to identify job opportunities
FSKLRG01	Prepare to participate in a learning environment
FSKLRG010	Use routine strategies for career planning
FSKLRG02	Identify strategies to respond to basic workplace problems
FSKLRG07	Use strategies to identify job opportunities
FSKLRG10	Use routine strategies for career planning
FSKNUM021	Apply an expanding range of arithmetical calculations for work
FSKNUM022	Use ratios, rates and proportions for complex workplace tasks
FSKNUM027	Collect, organise and interpret statistical data for work

CODE	TITLE
FSKNUM028	Use routine formulas and algebraic expressions for work
FSKNUM21	Apply an expanding range of mathematical calculations for work
FSKNUM22	Use and apply ratios, rates and proportions for work
FSKNUM27	Collect, organise and interpret statistical data for work
FSKNUM28	Use routine formulas and algebraic expressions for work
FSKOCM005	Use oral communication skills for effective workplace presentations
FSKOCM006	Use oral communication skills to participate in workplace teams
FSKOCM009	Use oral communication skills to facilitate workplace meetings
FSKOCM05	Use oral communication skills for effective workplace presentations
FSKOCM06	Use oral communication skills to participate in workplace teams
FSKOCM09	Use oral communication skills to facilitate workplace meetings
FSKWTG001	Complete personal details on extremely simple and short workplace forms
FSKWTG002	Write short and simple workplace formatted texts
FSKWTG01	Write personal details on basic workplace forms
FSKWTG02	Write basic workplace formatted texts
HLTINFCOV001	Comply with infection prevention and control policies and procedures
MSMBLIC001	Licence to operate a standard boiler
MSMBLIC002	Licence to operate an advanced boiler
MSMPER300	Issue work permits
MSMWHS216	Operate breathing apparatus
PMBWELD301	Butt weld polyethylene plastic pipelines
PMBWELD302	Electrofusion weld polyethylene pipelines
PUAEME001	Provide emergency care
PUAEME001B	Provide emergency care
TLIA2050	Lash and unlash cargo and containers
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
TLILIC0012	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
UEENEEG175A	Develop compliance policies and plans to conduct a electrical contracting business
UEENEEG198A	Apply compliance requirements to all aspects of electrical work
UEENEEK135A	Design grid connected photovoltaic power supply systems
UEENEEP014A	Disconnect - reconnect water heaters connected to low voltage installation wiring
UEENEEP015A	Disconnect - reconnect motors connected to low voltage installation wiring

Appendix 7: Interviewer debrief – impressions

- Most producers only considered training in an ad hoc way, not as a specific budget item; larger businesses do consider training in their planning
- Time away from work was considered the biggest cost of training
- Most know what their plans for the future are, but these are mostly not documented or in the form of a documented strategy
- Just about all dairy businesses had stayed static or seen a small growth in the business but most saw labour needs as static
- Most dairy businesses are not looking to increase staff numbers much even if business is looking to grow
- Most used accountants and agronomists for professional advice
- Not many used the apprenticeship system; many had been put off from using it as it is hard to find the right person or for them to see it through, and mentioned a lack of a suitable apprenticeships on offer
- Most try to employ local workers but find the quality and reliability is poor
- Many dairy producers considered visa workers to be unreliable; the main issue is that 'you train them, but they can only stay a limited time'
- The key attributes people are looking for are reliability, good work ethic, willingness to learn, communication skills, just turn up, with many commenting that staff were generally lacking literacy and numeracy skills, ability to communicate, learn and follow direction, and basically did not want to work
- Many that had fewer problems with staff turnover put time in finding the most suitable person for a job and then offered good working conditions and development opportunities
- The main skills sought were general ag production skills, livestock husbandry, and trade skills
- Computer literacy was seen as important and often lacking
- Many found it difficult to find staff and those that found it easy often said 'the quality was lacking' in people
- I had 4 dairy farmers in the West getting out of dairying as a result of not being able to find 'good labour'
- Compliance courses were easier to find but many felt that these did not ensure the attendee actually had the required skills at the end of it, so had lost faith in these certificates
- Many found that staffs' lack of willingness to learn was a barrier as well as distance from available training, availability of training and time available to do it
- Training barriers mentioned were cost, quality, flexibility and practical content. "It is especially difficult for small and family operated businesses to bear the cost and the loss of time. Training should take into account on-the-job training previously provided, instead of a one-size-fits-all course."
- The dairy industry did mostly go against the negative trend with many happy with the industry training provided and found availability and timing was generally good
- There was a lack of commitment from staff for training
- Many who were critical found training difficult to find due to availability, timing, cost, and educational bodies just did not get back to them
- Strengths of training was mainly around compliance training which was readily available and dairy industry training was viewed favourably
- There were many comments on weaknesses with many identifying the quality of the training and trainers was poor, training was often hard to find, and the timing was wrong. High level trade training was impossible to find. Most found that the outcomes did not meet requirements

- Many could not identify a standout of training provided to staff and those that did were for non-ag courses or dairy industry training
- Short term suggestions to improve training was varied but many were looking at funding costs, promotion of the sector, more onsite training, and better qualified trainers
- Most people's ideal was reliable staff with a passion for what they do, a willingness to learn, and team players with multi-skills with increased knowledge of technology
- Other comments made were the 'new generation' has a view that they are owed everything, they do not want to work, literacy and numeracy is in decline and general work ethic is non-existent; they do not take feedback and have no pride or passion in the work that they do, they are also lacking common sense and can't take more than a couple of directions at a time; they also do not know how to communicate in the workplace or with each other
- The view was mentioned that agriculture is seen as what you do if you are not good enough for anything else, and it is not promoted as a career or an option in schools; it is perceived as hard work
- Perception of the lack of career opportunities in ag and that it is a job for the poor performers; therefore, schools drive the good candidates away from the industry and leaves the 'leftovers'; there is a train of thought that this issue is due to advice students receive from teachers and career advisers. "At school, the troublesome kids get funnelled into ag programs, and so the rest of the students feel that ag is for 'dumb' kids, and it seems a very unattractive career option."
- A main theme by producers was 'skills are secondary to attitude 'often employers aren't looking for specific skills, more for the right person; reliable, work ethic, cultural fit, honest; "skills can be obtained on the job; attitude can rarely be changed."
- A shortage of agronomists skills and current numbers was mentioned by many, which means they 'tend to jump around a bit' between agronomy service providers and employers often struggle to retain agronomists; poaching occurs
- Lack of suitable candidates to fill supervisory and middle management roles was mentioned; this seems to be a trend across the industry, both on farms and the service sector. "Middle management: the supervisor, or manager, level of employee is difficult to find. Unskilled labour is okay, those spots can be filled, but really difficult to find and keep experienced and capable, skilled people."
- Finding quality farm workers is difficult; in the Wesley Vale area, there is a culture of poaching good farm workers. "The dairy industry around Smithton is rife with farms and companies poaching staff, meaning all the investment in training is lost" for the previous employer
- Machinery merchants generally don't think the TAFE diesel mechanic apprenticeship is very good because it is not ag specific; it doesn't provide the training needed; they also don't think it is run very well. "Not great trainers and classes are too large. Doesn't seem to be any accountability put onto the apprentices." One interviewee has started sending their apprentices to Victoria to go through an Ag Machinery Apprenticeship available over there
- Lack of skills in animal husbandry and machinery driving on farms
- Train the trainer is something to be looked at
- Standout training included:
 - Non ag specific leadership courses; Lean Management, Frontline Management through TCCI, and some HR courses.
 - King Island Beef Producers Group put on an animal husbandry course
 - More Beef from Pastures Pasture Management Course (via MLA)
- For seasonal work, there is a preference towards VISA workers by berry and vegetable producers. Perception is they are more reliable than locals (do not turn up, poor work ethic) and work harder
- A larger company prefers locally sourced workers as they can then be return workers and less retraining is required. This company did not mention anything about differences in performance

- Not many of the smaller scale employers are active in attending or sending staff to training courses, however, the most typical are licences or compliance training such as:
 - First aid
 - ChemCert
 - Forklift
 - ATV
 - Chainsaw
 - Truck
- “Information about Ag careers and basic ag knowledge should be taught in schools at earlier ages. Less kids are growing up on farms and they are more removed from the agricultural world and what is involved, so education is an important step.”
- “I heard often, that employers would really like to hire people that are actually interested in agriculture, not just showing up for the cash.”

This report has been prepared by:

RM Consulting Group Pty Ltd trading as RMCG

4th Floor, 29 Elizabeth Street, Hobart Tasmania 7000

rmcg.com.au — ABN 73 613 135 247

Offices in Bendigo, Melbourne, Torquay and Warragul (Victoria),
Penguin and Hobart (Tasmania) and Canberra (ACT)



Key Project Contact

Doris Blaesing & Donna Lucas

0438 546 487 — dorisb@rmcg.com.au

0459 047 478 — donnal@rmcg.com.au

Document review and authorisation

RMCG Job Number: #0648

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Draft	26/05/2020	D. Blaesing	D. Blaesing	J. Longford	D. Lucas	Department of State Growth Tasmania
1.1.	Draft	28/05/2020	D. Blaesing	D. Blaesing	J. Longford	D. Lucas	Department of State Growth Tasmania
2	Final	14/07/2020	D. Blaesing Donna Lucas Michael Tempest Sally Scrivens	D. Blaesing	J. Longford	D. Blaesing	Department of State Growth Tasmania