

Models for a future skilled workforce for fruit production in the Yarra Valley

Report prepared for:
The Centre for Agriculture and Business, Yarra Valley



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Acknowledgements

The project Steering Committee has provided advice and direction for the Models of a Future Skilled Workforce Project and developed project recommendations. The project team would like to acknowledge the valuable contribution of Steering Committee members:

Fred Hellriegel – Project Manager
Clive Larkman – Chair, Centre for Agriculture and Business
Alison Brinson – Victorian Rubus Growers
Chloe Thompson – Industry Development Officer, Victorian Strawberry Growers Association
Carolyn Burgi – Director, YV Fruits
Greg Hallihan – Primary Skill Victoria

The project team also gratefully acknowledges the contribution of the thirty regional fruit growers who consented to in depth interviews and contributed significantly to project outcomes.

Special thanks also, to The Centre for Regional Development staff for their assistance with the report editing.

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Acronyms

AAPGA	Australian Apple and Pear Growers Association
AFFCO	Australian Fresh Fruit Company
CAB	Centre for Agriculture and Business
COHST	Centre for Occupational Health and Safety Training
CPR	Cardio Pulmonary Resuscitation
DPI	Department of Primary Industry
MSDS	Material Safety Data Sheet
NMIT	Northern Metropolitan Institute TAFE
OHS	Occupational Health and Safety
TAFE	Technical and Further Education
VAN	Victorian Agricultural Networks
VCAL	Victorian Certificate Applied Learning
VFF	Victorian Farmers Federation
VSGA	Victorian Strawberry Growers Association
VSIDC	Victorian Strawberry Industry Development Committee

Background

The Centre for Agriculture and Business, Yarra Valley (CAB) first identified uneven levels of industry association membership and limited participation in industry education and training as a limiting factor in engaging agribusiness in co-operative ventures and the need for a strategy to address education training and employment in 2000¹.

Subsequently feedback from dinner forums and a review of CAB strategic directions has reinforced the need for industry training, career development and succession planning given the significant proportion of ageing regional farmers. Long-standing and well-developed regional industry simply does not have a culture of education and training but is concerned about access to labour industry efficiency and competitive business development.

Little has been done to address the issue of education, training and careers. The importance of a highly skilled workforce, the use of technology, the capacity for innovation and managing careers in flexible, safe and creative workplaces are extremely important for future regional viability.

The Next Generation Food Strategy (Food Victoria, 2004) states:

“The availability of a skilled workforce able to respond to changing requirements is crucial to the industry’s long-term viability. Issues related to education, training and career development have been of concern to all sectors of the food industry. Initiatives are directed to developing and retaining a highly skilled, creative and flexible workforce across the State, promoting the food industry as a forward-thinking choice for a progressive career at any stage in life or background, and achieving critical mass in tertiary food science programs.”

The purpose of this project is to promote the importance of education and training for the agricultural industry in the Yarra Valley. Fruit and berry growers have been targeted for this project which is part of a statewide Victorian Agricultural Networks (VAN) umbrella project, addressing the strategic goal of the Next Generation Food Strategy to *“meet the demands of the global food market for competitiveness, innovation and sustainability”* and relate to the key areas of *industry structural adjustment and/or developing a skilled and flexible workforce.*

Research Methodology

The project aims were to:

1. Meet with appropriate representative bodies and peak industry groups.
2. Document and set out priority skill requirements needed for current and future training.
3. Identify preferred methods of training delivery and cost.
4. Identify barriers and improvements needed for education and training in these industry sectors.
5. Offer pilot training programs of identified industry needs.

Advice was sought from Victorian Strawberry Growers Association, Victorian Strawberry Industry Development Committee, Rubus Growers Association, Fruit Growers Victoria, Victorian Cherry Growers Association, the Australian Quarantine Association, Landmark, the Department

¹ Langworthy, A., & Hackett, T. (2001). *Farming Real Estate?: Challenges and Opportunities for Agribusiness on the Urban Fringe - Yarra Valley Region*: Yarra Ranges Agribusiness Forum; Centre for eBusiness and Communication, Swinburne University of Technology Lilydale; Funded by Commonwealth of Australia Department of Employment Workplace Relations and Small Business. Food Victoria. (2004). *Next Generation Food Strategy*: State Government of Victoria, Regional Development Victoria.

of Primary Industries and Primary Skills Victoria. Industry representatives were invited to join the project Steering Committee which provided advice on the initial project methodology. This research was conducted with ethics approval (number L06/005) and in accordance with Swinburne research guidelines.

An industry forum to seek wide industry input and support for some in-depth interviews with key fruit and berry growers was held. Growers and farm business owners attended the forum held on May 3, 2006. Subsequently, 30 interviews were conducted with strawberry, apple/pear, cherry/stonefruit and blueberry/raspberry growers. For a copy of the interview survey refer to Appendix 1. The interviews also provided the opportunity to inform growers about current programs.

Interview results were analysed to determine priority skill requirements and to identify barriers and improvements in industry specific education and training. In addition four pilot programs were identified and analysed for training content and mode of delivery.

Report Findings

Eleven strawberry growers, three cherry growers, eight apple and pear growers and eight blueberry/raspberry growers were interviewed. Almost all of the growers interviewed are long term growers with intergenerational family businesses. The businesses were mainly run by the owner operator and family. In total, 30 businesses interviewed employed 153 full time employees, 73 part time workers and 37 casual workers. Most seasonal workers, of which there were 1,620, were identified as being of Cambodian or Vietnamese extraction, or were European backpackers.

Peak Industry Seasons

Interviewees were asked to identify peak seasons as a context for training type, timing and location. The apple and pear industry is characterised by year-round activity: winter pruning in May to October, fruit thinning from October to January and picking season from November to May. The cherry/stone fruit industry has limited need for employees in the quieter months of March to June and thinning requirements in November to December. The peak picking season is from December to February. The strawberry industry has limited needs for employees in the quieter months of June to September. The majority of the workforce is employed for harvesting, picking and packing from October to May. The blueberry/raspberry industry has limited need for employees in the quieter months of June to October. There are workforce requirements in the early spring and autumn but the main harvesting/picking/packing season is December to February/March.

Current Staff Qualifications

Given that the survey participants were from senior management or were the owner operators of the business, their main formal qualifications were in business management and administration or they had a range of specific qualifications relating to on farm practice including Chemical Users Certificates and Occupational Health and Safety Certificates. With the exception of three new industry entrants in the berry growing sector, most growers have developed their industry knowledge on the farm, learning from family members and others over time. This group of growers is more likely to indicate a need for business management and marketing training in general. Newer industry entrants were more likely to require industry specific training in horticultural or agricultural farming.

It is interesting to note that the formal qualifications of growers align strongly with current industry standards and comply with regulations. The formal and informal qualifications of the thirty growers interviewed are listed in Table 1 below.

Table 1: Grower Qualifications (Formal and Informal)

Qualification Type	Category	Course	% (n=30)
Formal	OHS	Quality assurance/food safety handling	63
		Machinery licensing – forklift, truck, heavy	40
		Worksafe	16
		First Aid	10
		Hazard Analysis	3
	Chemical Users	ChemCert/Chemical users	80
	Plant Health	Apprenticeship/Diploma in horticulture/fruit production	20
		Cert III in Horticulture	13
		Bachelor Agriculture	6
		Fumigation	3
		Botany	3
		Viticulture	3
		IPM Management	3
Hydroponics	3		
Business Management	Business administration/management	36	
	Computer	16	
	Bachelor Accounting	16	
	Degree in Engineering	13	
	Business/farm planning	6	
	Marketing	6	
	Bookkeeping	6	
MYOB	3		
Informal	OHS	Farm management/maintenance	53
		Machinery operators	26
		Basic first aid	6
		Risk Assessment	3
	Irrigation	Basic irrigation/pump knowledge	13
	Plant Health	Fertigation techniques	3
		IPM management	3
	Business Management	Administration/management	23
		Workplace trainer	6
		Marketing/sales	6
Bookkeeping		3	
Industry	Workshops/seminars	6	

Skills Needed by Workers

Respondents were often unclear about specific skills required for their workers. Instead they were more likely to identify general areas of expertise in attitude and approach appropriate for their industry, for example enjoyment of an outdoor lifestyle. Table 2: *Skills Needed by Workers* shows the type of skills workers need as identified by the respondents.

Business and marketing management (76%) and plant development and nutrition (60%) were identified as skills most needed by workers.

The majority of growers prefer their employees have skills in the areas of:

- basic horticulture;
- individual workplace processes including machinery operations; and
- fruit production.

Owner operators tended to identify a need for themselves or family members to undertake training in the areas of:

- business;
- sales management; and
- customer service.

Table 2: Skills Needed by Workers

Skill Category	Skill Type	% (n=30)
Basic horticulture	Harvesting	16
	Picking, packing, storing produce	26
	Food handling	10
	Plant development and nutrition	60
Sales & Customer service	Product knowledge	13
	Business and marketing management	76
	HR and PR	3
Environmental management	Pest & disease ID, knowledge & control	16
	Soil & irrigation	33
	Fertilisation & fertigation	33
	Crop management	3
OHS	Duty of Care	16
	Workplace training	10
	Machinery operation and repair	26
Chemical users	Chemical mixing and application	30
General employment	Workplace requirements	6
	Workplace communication	13
	Workplace supervision	6

Skills Needed in the Workplace

Participants with industry association membership (for example, the Victorian Strawberry Growers Association or the Australian Rubus Growers Association) or grower groups like YV Fruits did not tend to identify many skill shortages in their workplace. For this group, respondents indicate they are able to access appropriate training because they are well informed about current standards and requirements via membership of their relevant industry association. Skill gaps in the areas of business and staff management and safe workplace practices (OHS) were identified by the larger enterprises.

It is interesting to note that these businesses also identified a need to increase management workplace based training skills. Larger, more established enterprises listed management and OHS skills as a priority over plant health, chemical users and irrigation because of the larger number of employees they have during peak season. These businesses may have up to 200 seasonal workers who require training and management and thus a different environment to the smaller growers who have fewer staff or management needs. The smaller growers were more likely to list skill gaps in the areas of machinery operations, pruning, field and post harvest production.

Table 3: *Skills Needed in the Workplace* shows the percentage of growers identifying skills gaps identified by this group.

Table 3 Skills Needed in the Workplace

Skill Category	Skill or Course Area	% (n=30)
Chemical Users	ChemCert	23
	Refresher Course	13
	Risk Management	3
	Chemical advice	3
OHS	Worksafe, OHS procedures workplace requirements	27
	Duty of Care	13
	First aid	13
	Engineering & Machinery operators	10
	Food safety and handling	7
	Workplace communication (language barriers)	3
	Mechanical maintenance and repair	3
Irrigation	Basic Irrigation/fertigation and water/ environmental management	13
Plant Health	Basic soil biology, agronomy, horticulture and Ag. science	27
	Basic plant physiology and nutrition	20
	Fruit pruning for berries, apples	10
	Understanding chemical reports and soil analysis	7
	Entomology relating to industry specific pest problems	7
	Field/post harvest production	10
Business Management	Business admin, management, PR, marketing and priority planning, and Website	37
	Training techniques, communication and technology	27
	People/staff management and holding onto skilled workers	17
	Succession planning	10
	Training demonstrations	3
	Knowledge of workplace employment options	3

Qualification by Category or Skill

Respondents lacked knowledge about the qualification types or levels available and therefore identifying their needs, or qualification status of their workers was challenging. The growers tended to identify basic horticultural knowledge and previous farming experience as the main qualification attained by their employees, with most skill or informal qualifications attained 'on the job'. Because there is a requirement to include OHS in farm and business planning, growers identify a need for basic OHS knowledge for their workers. In addition, workplace communication and the ability to work in teams were seen as a major requirement for employees.

For ten growers, a third of all respondents, the preferred qualification for workers were those attained through an apprenticeship or traineeship program in farm production or horticulture. Respondents identified several barriers to employing apprentices or trainees, however, further research is called for to fully appreciate and explore these issues and their impact upon future training opportunities. In general growers preferred workplace based training as a means to ensure that employees were appropriately qualified for their jobs.

Several different types of workplace based training were identified and included:

- fruit production
- ChemCert
- first aid
- OHS

- workplace communication
- plant nutrition; and
- short, industry-specific farm practice courses

Meeting Current Training Needs

The growers indicated a strong preference for simple practically based learning approaches in all training courses. It was also felt that courses needed to be individually tailored for each workplace. For example, an OHS course that caters for the specific packing shed and processing needs of the individual farm, or a basic farm machinery course around the actual harvesting machinery and implements used in the fruit and berry farm environment. Whilst current standards and regulations require qualifications, workplace based knowledge is far more important to growers who want productive and capable workers on the farm more than they want certificates on the wall.

Cost effective and competitively priced training was of interest to growers. There was a strong preference for courses to be available and subsidised through FarmBis, part of the Australian Government's Agriculture Advancing Australia (AAA) package, which is a joint funded initiative with the State Government. The growers suggest that price determines their choice of training package if the program is offered locally. However, workplace based offerings or courses that are particularly desirable are chosen regardless of price.

Because a large number of seasonal workers in the regional fruit growing industry are from South East Asia countries, Cambodia or Vietnam, or European backpackers, many employers identified that language barriers create additional challenges to delivering workplace training. With these workers, there is a need to adopt training techniques that accommodate their non-English speaking backgrounds. Many farmers expressed a concern about their ability to provide a cultural appropriate to workplace training that crosses the language divide. Thus, they identify a need for a course in basic principles of staff management and how to promote on the job training.

The study identified accredited short courses held within the off-peak work season, were preferred by growers in contrast to long term training held during the peak work season. These courses could be run during the off-peak seasons and embedded within a recognised qualification. In the same way local workshops and seminars could also provide credit toward a qualification. In addition any course that takes the farmer or grower away from the workplace should be very time efficient. Timeframes need to improve in order to engage these growers with training and development.

Many growers suggested that improved communication among industry groups, associations and organisations would keep the industry updated with training packages suited to fruit and berry growing industry.

Industry Initiated Training

Many of the grower groups, farm and chemical suppliers and organisations associated with fruit production keep their membership up to date with current legislation, industry developments, marketing opportunities, overseas information and technological requirements. The growers rely on these institutions for advice and guidance. Most of the current training is being addressed through these individual industry bodies, with training developed and provided on a needs basis and advertised through their websites. The type of training preferred by growers

which is provided by these industry groups includes: local, interstate and overseas seminars or study tours, workshops and orchard walks. Information is also provided through “ag notes”, pamphlets, newspapers, magazines and books.

“Shop talks” provided by businesses such as Landmark, a rural services company, are attractive to growers because they provide information and informal training that is informative, social and not too demanding in terms of time and distance. Examples of others who provide training of some sort in the region include: Industry Development Officers; Department of Primary Industries at Knoxfield; Victorian Strawberry Growers Association (VSGA); Victorian Strawberry Industry Development Committee (VSIDC); Victorian Farmers Federation (VFF); YV Fruits; Australian Apple Pear Growers Association (AAPGA); and Australian Fresh Fruit Company (AFFCO).

The most popular training sessions are usually held in an informal environment around the launch of work seasons or just before peak work season, with a barbeque and drinks provided for growers. Farmers like these sessions to be run on the job or in the field where they can source information by travelling to different farms and observing different workplace practices.

Consultants are important in the areas of farming that require specialist scientific based knowledge, for example, irrigation, technology, chemical and machinery. Many farmers source help and guidance from these local, interstate and overseas professionals on a needs basis and carry out their farming practices on the recommendations of these industry specialists.

Preferred Modes of Training Delivery

The peak work season is a key determinant of training preference. Thus most growers prefer training delivered during the off peak season. Table 4: *Preferred Modes of Training Delivery* shows training delivery modes preferred by respondents.

Respondents across the industry groups preferred short day release training sessions held within their off-peak winter work season. In addition, most preferred a weekday time allotment, Monday to Friday, with the exception of respondents from the strawberry industry who preferred Friday because it is their quietest work day. Day release training creates opportunities for short practical based farming workshops that combine classroom activities and actual farming exercises appropriate to the individual farmer’s needs.

All interviewees preferred after hours training to be conducted early in the afternoon, rather than late at night, due to the heavy workload associated with the farming environment.

Most indicated a preference for after hours training on a Monday to Wednesday from 2 to 8pm. Whilst the workplace is often the preferred location for training, the classroom is preferred in winter when the farm environment is cold and therefore not conducive to learning. Block release was seen as another opportunity for combining learning in a classroom environment and on the farm. Most agree workplace learning is not recommended for anything more than half or one work day during peak season and at most two or three days during off peak work season.

Table 4: Preferred Modes of Training Delivery

Blueberry/raspberry Industry			
	Season	Comments	Duration
After hours	Preferably off peak Mon – Fri (4 – 8pm, 6 – 9 pm or 2 – 7pm)	Not on weekend if can be avoided and not too late into the evening	3 – 4 hours
Day release (once a week)	Mon - Fri off peak 8am – 4pm	Short workshops and practical based.	Once a week
Block release (weekly)	Winter off peak Mon - Fri	Before busy season begins and has potential for interstate & long distance attendance	Two/three days or weekly
Workplace	Winter off peak 8am – 4pm	Practical based, held at local farms in work hours 8 – 5pm	Once a week
Cherry/stone Fruit Industry			
	Season	Comments	Duration
After hours	Preferably off peak Mon – Fri (4 – 8pm, 6 – 9pm or 2 – 7pm)	Not on weekend if can be avoided and not too late into the evening. Putting on a BBQ at meal time.	3 – 4 hours
Day release (once a week)	Winter off peak 9am – 4pm	Short workshops and practical based.	Friday only, half a day
Block release (weekly)	Winter off peak Mon - Fri	Not recommended for long weekly periods of training	Two/three days
Workplace	Winter off peak	Practical based, held at local farms in work hours	half day or once a week
Apple and Pear Industry			
	Season	Comments	Duration
After hours	Preferably off peak Mon – Fri (4 – 8pm, or 2 – 7pm)	Not on weekend if can be avoided and not too late into the evening. Putting on a BBQ at meal time training sessions	3 – 4 hours
Day release (once a week)	Mon - Fri off peak 9am – 4pm	Short workshops and practical based.	Once a week, half a day
Block release (weekly)	Winter off peak Mon - Fri	Not recommended for long weekly periods of training	Two/three days
Workplace	Winter off peak	Practical based, held at local farms in work hours	half day or once a week
On line	Winter Off peak	If computer literate	Anytime
Correspondence	All year round	Can fit into seasonal peak times, assessment needs to be identified	Anytime
Strawberry Industry			
	Season	Comments	Duration
After hours			
Day release (once a week)	Preferably off peak (4 – 8pm, 6 – 9 pm or 2 – 7pm)	Not on weekend, not too late into the evening and never on football nights.	8 hours Friday only
Block release (weekly)	Mon - Fri off peak 8am – 4pm	Short workshops and practical based. Too hard to fit in anything longer than a week	2 – 5 days
Workplace	Winter peak/off peak Mon – Fri	Before busy season begins and has potential for interstate & long distance attendance. For specific courses related to workplace	Two/three days or weekly

Available Career Paths for Employees

Growers were able to identify a limited number of career paths within the broad fruit growing industry. Most businesses are owner operators or family run. Therefore these business owners take on leading roles in farm supervision or management, leaving little opportunity to promote workers. Often employees in the industry were restricted to roles such as:

- leading hand
- foreman

- safety officer
- farm hand
- fruit picker
- apprentice/trainee
- chemical and machinery operator
- owner operator
- communications
- qualified horticulturist
- development officer; and
- sales and marketing roles

The subject of succession planning came up many times among established fruit and berry growers. Many expressed concerns for the future of their family owned and operated businesses and identify a need for training, guidance and advice in this area.

Available Pathways through Education

Thirty percent growers were aware of industry specific training packages offered by training organisations in contrast to those provided by industry specific organisations and associations. Seventy percent of respondents referred to a range of Technical and Further Education Institutions like NMIT, Goulburn Ovens TAFE, Chisholm TAFE, Warragul TAFE and others like DPI Knoxfield and Dookie. Respondents were also able to identify private training providers promoted by FarmBis or by word of mouth from industry related businesses. All respondents preferred training providers located close to their farm.

Awareness of Swinburne Courses

Because proximity of training was identified as a key enabler by growers, they were asked about courses offered by the closest post-compulsory provider Swinburne University of Technology which has a campus at Lilydale. Only 23% of the fruit and berry growers surveyed were aware of the courses at Swinburne. Those who were aware of Swinburne courses, identified business and computer technology training courses but very few were aware of horticulture, environmental science, farming and viticulture courses. Six percent of growers receive a course brochure every so often but, not many brochures contain information that is relevant to the grower's workplace.

Seventy-six percent of survey respondents had no knowledge of courses currently available through Swinburne suitable to their training needs. Thirty percent of farmers say nothing would stop them from accessing training at a TAFE or University. Forty-six percent of growers say cost is a factor or barrier to training for the workplace, a suitable source of funding needs to be sourced, like an accredited FarmBis course.

Distance to travel to the training facility was a concern for 30% of the growers as was course timing and duration. Growers noted that Web based information and online provision may assist communication and costs associated with training, but not preferred among growers.

Twenty percent of growers required courses specific to the individual workplace that were not too broadly based. Language and reading barriers were also of concern to three percent of the growers.

Factors which hinder farmers' planning their work training schedule for the year include:

- lack notification and communication of recognised or relevant training courses, workshop, or seminars; and
- lack of knowledge, particularly related to current industry standards and international best practice.

Barriers include farmers feeling intimidated by training institutions and communication barriers both in language and reading.

Opportunities to Work with a Local Education and Training Provider

Issues of cost competitiveness can be overcome by off-setting training fees through FarmBis registration. This may entice growers to access and thus increase the level of training and development taken up by growers and workers in the region.

The study identified a preference by respondents for targeted training, tailor made horticulture or agriculture training that aligns with current industry standards and regulations. Industry experienced lecturers, facilitators or innovators would provide expert knowledge, training and opportunities for engagement in areas such as pest and disease courses appropriate to orchards environment. This is in contrast to courses that focus on every day garden environment pest and disease courses. Industry experts also provide guest speaking opportunities at training workshops, events and functions.

In addition, increased communication and advertising of industry specific courses, held during the off-peak winter work season, with workplaces, industry leaders and association's development officers would also increase training outcomes for regional growers. The development of support or network groups may also increase the level of training accessed by regional growers.

The study identified the relevance of classroom and workplace based learning as equally important because they address particular training needs. Current on the job learning resources can be utilised in the workplace to train new or experienced employees. For instance, industry specific training videos with language appropriate instructions or information for non-English speaking peak season workers.

An untapped employee base was identified by growers in that students who have completed VCAL or VET associated horticultural subjects could be employed in the fruit and berry production industry. These students, who have attained low level skill acquisitions in horticultural practices, are well placed to enter the industry.

Further Information about Training

Growers indicated they regarded information about future training and education institutions as important to their business, particularly with regard to current workplace requirements. Promotion of courses, workshop or seminars to growers needs to be relevant to the individual workplace.

Many see the training institute as a reference and guidance point, when it comes to addressing individual training needs. Direct contact with highly trained and experienced facilitators and their knowledge base is supportive to the grower.

Relevant Training Programs for the Workplace

Growers prefer a combination of theory and practice rather than just theory alone. The fruit growing farming lifestyle requires practical application of learning around manual labour, machinery operation and plant or tree health and maintenance, all of which are best taught on the job.

However growers also identified the need to manage their farm as a business. Thus business management and OHS training were also seen as important.

Farmers seek training choices that can be tailored to their particular needs. Table 5: *Identified Training Needs* shows the types of courses in which respondents were interested.

Table 5: Identified Training Needs

CATEGORY	COURSE TYPE	% (N=30)
Chemical Users	ChemCert	16
	Refresher Course	13
OHS	Roles and responsibilities	23
	Meet workplace requirements	6
	Safe machinery operation of farm machinery	6
	Maintenance and repair of farm machinery	6
	Duty of Care	3
	First aid – Level 1 & 2	3
	Workplace communication	3
	Training videos in other languages	3
Plant Health	Basic plant physiology and nutrition	23
	Basic soil biology and Ag. science	10
	Understanding your farm, plants, soil and fertiliser/farm skills	10
	Fruit pruning for berries, apples,	6
	Field/post harvest production	3
	Pest & disease/IPM	3
Irrigation	Basic Irrigation/fertigation	
Business Management	Investment/financial/succession/business planning	23
	Computer course designed in how to use the Web	6
	Marketing specifically to the fruit and berry production industry	3
	Data collection for farm science	3
	Train the trainer	3
	Farm supervision	3

Pilot Programs

Four case studies of industry specific training programs were undertaken to identify and analyse appropriate delivery models. Although four pilot training programs were identified, due to short time lines to undertake the research, only one program was conducted and therefore analysed. The three remaining programs are scheduled to be run in July at times suitable to growers. In addition, a calendar short course programs addressing identified grower needs is currently under development. It should be noted that these programs only address immediate, specific skill needs. The bigger issue of comprehensive industry wide education, training and qualification is flagged for further attention.

Pilot Program One: ChemCert Refresher Workshop

This course ran on Wednesday June 7, 2006, from 9.00 am to 1.00pm at Swinburne University of Technology, Lilydale campus.

The workshop aimed to provide up to date coverage of the full range of areas central to safe and effective management of farm chemicals and designed to enable participants to refresh their understanding of:

- following instructions of how to apply chemicals
- the need for chemical use
- preparing appropriate chemicals according to label and MSDS
- clean up following chemical application or spills and
- complete chemical records and storage details.

The emphasis of this course is to enable participants to undertake activities in accordance with:

- product labelling
- essential information about industry legislation
- farm chemical calibrations
- personal and work safety
- record keeping and
- risk assessment.

Swinburne staff facilitated a four hour workshop for 11 stone and pome fruit growers, eight from local industry and three from Warragul. Methods used for the workshop included a range of short activities with chemical calibration, lectures in current industry requirements and standards and an interactive discussion. All attendees were issued with a Chemical Users Manual. Participants who successfully complete these competencies will gain credits towards a ChemCert Refresher qualification offered by Swinburne.

Program evaluation

Concerns were raised about the value of the chemical user's refresher course in its current format. Chemcert do not have any requirements for assessment of participants at a refresher course, which further undermines the value and highlights the need for training in this area. Growers wanted more information on the latest technologies and equipment for safe handling, and mixing of chemicals.

The course was comprised of participants with diverse training needs and from diverse industry groups. According to the course facilitator, this created additional challenges because the

course content was not appropriate for all participants. In addition, although managers or owners may receive appropriate training, the information and skills may not be reaching those in most need – the worker in the field. This was particularly highlighted when managers or owners indicated they assumed responsibility for decision making and ‘just hand out’ job sheets for spraying and other chemical use to field workers.

Whilst managers want to comply with the requirements of Workcover they seem to get a lot of mixed messages in terms of qualification. Ideally courses would be run in collaboration with organisations such as Workcover, to ensure systems put in place are compliant. It appears that the proposed Chemical Risk Assessment module developed by Chemcert does not meet Workcover requirements. Growers had very definite negative feelings about any system that required additional administrative efforts - especially where there are only a couple of people in the workplace.

The opportunity to use industry leaders, leading enterprises and innovators as case studies to visit for the workshops was identified. This would suit the needs of many growers who had inquiries regarding the latest in farming technology and equipment.

Future dates have been set for the ChemCert Refresher Course and before commencement, a review of the methodology, course content, current standards and workplace practices will be undertaken with the provider and industry representatives.

Pilot Program Two: Install, Operate and Troubleshoot Irrigation Systems

This course is scheduled to run on Tuesdays from 5 pm to 8.30 pm from early August until the end of September at Swinburne University of Technology Wantirna

The course aims to assist participants to:

- develop knowledge and skills in the process of installing and operating pressurized irrigation systems;
- gain troubleshooting skills in low flow and pressure problems, blockages, inoperative irrigation equipment and systems;
- develop an understanding of sprinklers, system controllers, irrigation equipment and pumps; and
- undertake activities in accordance with industry requirements and expectations.

A range of project based activities will be facilitated so that participants gain credit for units of competency in Certificate III in Horticulture or Certificate III. This course will be offered by Swinburne in partnership with Reece Irrigation Pty Ltd.

Pilot Program Three: Workplace First Aid Level 1

This course is scheduled to run on Tuesday July 11 or Tuesday August 3 from 9.00am to 5.00pm at Swinburne University of Technology, Healesville campus. It is a practical one day first aid course covering the competencies identified by industry and recreational organisations that will enable people to provide effective first aid management in life threatening emergencies.

The course aims will enable participants to:

- respond to life threatening emergencies;
- call medical assistance and provide effective first aid management before the arrival of ambulance or other assistance;

- perform effective resuscitation;
- look after the unconscious victim;
- stop external bleeding;
- keep practical and adequate records of first aid treatment; and
- aid treatment

The Centre for Occupational Health and Safety Training (COHST) will supply a qualified and highly experienced industry trainer who tailors courses to the particular needs of participants with appropriate emphasis on areas specifically requested. CPR resuscitation manikins and individual face pieces and a class set of bandages will be provided for practical activities. Participants will receive a First Aid Emergency Handbook as primary text for workbook learning activities and all participants who successfully complete these competencies will gain a Swinburne University certificate valid for 3 years.

Pilot Program Four: Workplace First Aid Level 2 - (21539VIC)

This course is scheduled to run on Tuesdays July 11 and 18 or August 3 and 10 from 9.00 am to 5.00pm. It is a practical and theoretically based two day course which provides an understanding of senior level First Aid, while ensuring that participants learn first aid skills that will enable them to recognise and manage every day emergencies. There are no prerequisites and the participant will develop an understanding and experience with:

- extended competencies of the Level 1 course;
- management of life threatening incidents before the arrival of an ambulance or other assistance;
- offering first aid assistance to persons suffering from minor injury or illness in the workplace; and
- keeping practical and adequate records of first aid treatment.

Course content will cover the following topics:

- Emergency Assessment and Basic Life Support Priorities
- The Role and Function of the Occupational First Aider
- Assessing the Accident Victim
- Resuscitation Techniques
- Managing the Unconscious Victim
- Control of External Bleeding
- First Aid Management of Minor Illnesses
- Treatment of Shock
- Burns and Scalds
- Fractures and Soft Tissue Injury
- Moving the Injured and Ill Person
- Personal Hygiene Techniques
- First Aid Kits in the Workplace
- Confidentiality, Ethics and Legal Aspects

Pilot Program Four has a similar format and structure to Pilot Program Three except it is a higher level qualification with additional skill sets.

Conclusions

This study has shown that whilst growers are interested in improving practice and production through education and training, they place little emphasis on qualifications. Whilst they have limited awareness of accredited training programs or career pathways in the industry, they are interested in working with training providers to access a variety of training opportunities which can be delivered on or off site. The crucial issue is that training needs to be tailored to growers' needs and delivered at convenient times and locations.

Language and cultural barriers create additional challenges not only for growers but also for the delivery of training. Further research may be needed to identify how best to communicate industry specific training to optimise worker output and safety.

Growers preferred training initiated by industry groups and local service businesses that provide informal workshops, "shop talks", seminars and orchard walks in a way that is very attractive; informative, social and not too demanding in terms of time and distance.

Whilst growers would like more information about training, they appear to receive little information directly from training providers. They prefer training to be located locally but few knew of the training provided locally by Swinburne TAFE. Although growers could see few barriers to working with the local university, the institution is potentially intimidating and cost is seen as a barrier.

Flexibility in training is required not only to accommodate the demands of peak season and on the job skills development but also because there is a need to tailor courses to specific fruit growing enterprise requirements.

The lack of career pathways in the industry is of concern as there appears to be little incentive for workers to gain qualifications and develop skills beyond the immediate requirements of their position. A third of growers say that they prefer apprenticeships and traineeships but few are engaged with TAFE in providing traineeships and apprenticeships, a situation that needs further investigation.

It appears that immediate training needs in the areas of OHS, machinery operation and maintenance, chemical use, plant health and irrigation can be met by a calendar of short courses provided in a variety of locations. This does not however address the issue of career pathways and attracting and training a future skilled workforce.

The greater challenge is to re-examine training in the fruit growing industry as a whole and investigate opportunities for building short practically based programmes into relevant accreditation that will be valued by owners and employees' alike thus building industry viability and competitiveness.

Appendix 1: Survey used in the quantitative phase.

Business Information

Business Name: _____

Contact Person: _____

Address: _____

Phone No: _____

Business Type: _____

Number of Employees (please list):

Full Time	Part Time	Casual	Seasonal	Specify Season

Current staff qualifications:

Formal	Informal

Skills your staff require: _____

Appropriate levels of qualifications for your business:

Are there any skill gap/shortages at your workplace, if so what are they:

What current training arrangements need improving, if any:

What current training arrangement that is working well for you:

What is the most suitable training delivery for your business (please tick):

After hours	Day release (once a week)	Block release (weekly)	Workplace based

Other: _____

What are the career paths in your industry available to your employees:

Do you know of any pathways to your industry offered in regional schools:

Are you aware of any current courses offered by Swinburne suitable for your industry:

What would stop you working with the regional TAFE/University:

What would encourage you to work with the regional TAFE/University:

What opportunities do you see to work with Swinburne:

Would you like to be contacted further in regards to training/education packages:

What type of training programs would be of interest to your workplace:

