

Submission

by the National Centre for Vocational Education Research (NCVER)

To

Victorian Parliament's Education and Training Committee

Agricultural Education and Training in Victoria

RESPONSE TO TERMS OF REFERENCE

The National Centre for Vocational Education Research (NCVER) is an independent body responsible for collecting, managing, analysing, evaluating and communicating research and statistics about tertiary education and training.

About this submission

This submission presents statistics and research findings relevant to the inquiry into agricultural education and training in Victoria. NCVER understands that the Education and Training Committee is looking at the full range of education and training settings as part of the inquiry, including primary and secondary education, vocational education and training (VET), higher education and agricultural extension (informal training). This submission concentrates on VET.

In July 2011, NCVER made a submission to the Victorian Parliamentary inquiry into farm sector workforce capacity which is likely to be relevant to this inquiry also (see <http://www.ncver.edu.au/newsevents/submissions.html>). Some of the information in the July 2011 submission is reproduced here where it is relevant. Additional information is provided as requested by Ms Anita Madden, Research Officer, Education and Training Committee, on 18 August 2011.

Data in this submission are sourced from the National VET Provider Collection (also referred to as Students and Courses). Requests for more detailed statistical information or further information about the National VET Provider Collection can be made to NCVER. A charge will generally apply for complex data requests. For information about NCVER's Data access and charging policy, go to:

<http://www.ncver.edu.au/statistic/21075.html#protocols>

Statistics

The Australian VET system offers a variety of accredited courses in the agricultural sector. NCVER collects information on VET students and apprentices and trainees in training for agricultural related occupations in each of the States and Territories. In regard to training in the field of education '*Agriculture, environment and related studies*', data from NCVER's three main collections (i.e. Students and Courses, Apprentices and Trainees, and Student Outcomes) can be accessed using the online tool '*VET industry statistics*'. This tool presents information about VET students in specific industry areas and brings together industry data at the *national level* from NCVER's three main data collections (i.e. Students and Courses,

Apprentices and Trainees and Student Outcomes). The 'VET Industry Statistics' tool is located at: <http://www.ncver.edu.au/resources/vsi.html>

Field of education

To assist the Education and Training Committee to reach a view about the scope of the term 'agriculture', the information in Appendix A Table 1 on full-time students enrolled in 'Agriculture, environmental and related studies' is broken down into the narrow educational fields of agriculture, horticulture and viticulture, forestry studies, fisheries studies, environmental studies and other. These data are presented as a time-series from 2002 to 2010 (latest available).

The number of full-time students enrolled in 'Agriculture, environmental and related studies' has increased steadily in Victoria over the last nine years to 2010, in line with national trends. Contributing to the growth in Victoria has been Agriculture, and Horticulture and viticulture. During this period, the number of full-time students enrolled in Environmental studies in Victoria remained steady, while Forestry studies and Fisheries studies have declined (See Appendix A, Table 1A).

There has been an increase in the number of full-time students across all the AQF Qualification levels associated with 'Agriculture, environmental and related studies' in Victoria and this is consistent with national trends. Approximately two-thirds of all full-time students in Victoria enrolled in 'Agriculture, environmental and related studies' are studying at the 'Certificate III' or 'Diploma or above' levels. The biggest growth since 2002 has been at the Certificate III level (1,058 full-time students in 2010, up from 587 full-time students in 2002). The number of full-time students studying at the 'Diploma or above' level has been more or less steady over the last nine years with numbers staying close to around 1,100 full-time students (refer to Appendix A, Table 1B).

There is limited training in 'Agriculture, environmental and related studies' outside of the major cities and regional areas. This field of education tends to be male-dominated but not as much as might be expected (see Appendix A, Table 1C).

Intended occupation

The Committee is interested in the characteristics of students training in courses which lead to work as 'Agricultural Scientists' (ANZSCO code 234112), 'Farm, Forestry and Garden Workers' (ANSZCO code 841000) and 'Agricultural Technicians' (ANSZCO code 311000).

Tables 2 A, B and C in Appendix A present this information at the 4 digit ANZSCO level and for the years 2007 to 2010.

On a national level, there has been an increase in the number of VET students studying in courses leading to work in all three of the occupations 'Agricultural and Forestry Scientists' (ANZSCO code 2341), 'Farm, Forestry and Garden Workers' (ANSZCO code 8410) and 'Agricultural, Medical and Science Technicians' (ANSZCO code 3110). In Victoria, only one - Agricultural, Medical and Science Technicians - has shown any sign of growth in the number of students since 2007.

There is a strong preference for part-time study among VET students who undertake courses which lead to employment in the three occupations of interest. Interestingly, males tend to be over-represented in 'Agricultural and Forestry Scientists' and 'Farm, Forestry and Garden Workers', whereas courses leading to work as 'Agricultural, Medical and Science Technicians' have similar numbers of male and female students.

Research

NCVER also undertakes and commissions research relating to vocational education and training. Research conducted in the last **five years** that is relevant to agricultural education and training is covered in the following reports:

Woods A, 2011, Moving the fence posts: learning preferences of part-time agricultural students, NCVER, Adelaide, accessed September 2011 at:
<http://www.ncver.edu.au/publications/2361.html>

This study comprised a focus group with current part-time students, which was followed by a survey of current and immediate past students to elicit their views on the teaching and delivery of the agriculture program. The study found that the ability for providers to offer students flexible attendance patterns and hands-on practical training allied with a balance of alternative course delivery options can improve access and increase student numbers.

Ferrier F, 2008, Vocational education and training providers in competitive training markets, NCVER, Adelaide, accessed September 2011 at:
<http://www.ncver.edu.au/publications/2025.html>

This study explores the experiences and initiatives of vocational education and training (VET) providers in three areas: income sources and mixes, 'thin markets' in VET, and research and development. Practices and policies are evolving in these three areas. The report contributes to a deeper understanding of the scope and range of VET activities in a competitive environment and the factors that shape them.

Rushbrook, P and Pickersgill, R 2008, In training we trust: Communicating regional training and demand to VET providers, NCVER, Adelaide, accessed September 2011 at:
<http://www.ncver.edu.au/publications/2082.html>

This project focuses on the interpersonal networking processes, or non-market mechanisms, through which training needs are signalled to VET providers in a rural region. A detailed single case-study approach shows that VET users also consider interpersonal relationships, based on trust, when selecting programs for participation.

NCVER, 2008, Industry & training 2007: Agriculture, forestry and fishing, NCVER, Adelaide, accessed September 2011 at:
<http://www.ncver.edu.au/publications/1808.html>

This report provides a snapshot of agriculture, forest and fishing employer' attitudes to vocational education and training (VET), drawing on findings from the 2007 Survey of Employer Use and Views of the VET System and other sources. It includes contextual information about the industry, a profile of training within the industry, and employers' use of the VET system and their satisfaction with the training provided. Supporting information is available online, including further detail about the employer survey.

Griffin, T and Curtin, P 2007, Regional Partnerships: At a glance, NCVER, Adelaide, Accessed September 2011 at:
<http://www.ncver.edu.au/publications/1938.html>

Vocational education and training (VET) has a key role in facilitating regional economic development. One way that VET can do this is by forming partnerships with other organisations, such as other training providers, business/industry, schools and local government. This 'at a glance' publication gives an overview of recent research exploring how partnerships can address regional needs.

Forthcoming research

The NSW TAFE Training and Education Support Unit, in collaboration with the Western Research Institute and Kaye Bowman Consulting have been contracted by NCVER to undertake a research project examining workforce skills development and engagement in training through skill sets.

This research project will focus on skill sets (defined as a grouping of one or more units of competency less than those needed to achieve a qualification) in the Agrifood Industry.

The research team will examine what roles skill sets have in meeting the skills development needs of the Agrifood industries workforce; what role they play in encouraging engagement and completion by students; and how these skill sets meet industry needs for post-initial qualification skills development. The study relies primarily on TAFE NSW data.

The research report is likely to be released in early 2013.

APPENDIX A

Data tables

Statistics by Field of Education

Table 1 (A, B & C) presents information on full-time students training in field of education 'Agriculture, environmental and related studies' between 2002 and 2010.

Table 1A: Fulltime students enrolled in Field of education 'Agriculture, environmental and related studies', Victoria and Australia, 2002 – 2010

Major course field of education	2002		2003		2004		2005		2006		2007		2008		2009		2010	
	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>	<i>Vic</i>	<i>Aus</i>
Agriculture	539	2,293	495	2,141	506	2,383	686	2,771	716	2,875	515	2,836	721	3,174	867	3,670	1,267	4,332
Horticulture and viticulture	854	3,607	895	3,567	806	3,319	828	3,174	897	3,394	1,231	4,166	1,246	4,470	1,078	4,980	1,257	5,338
Forestry studies	217	382	173	322	63	153	40	254	25	134	23	148	26	170	25	160	9	252
Fisheries studies	2	403	5	458	6	362	10	282	22	283	75	272	26	244	41	330	58	278
Environmental studies	566	1,225	587	1,443	630	1,615	570	1,513	605	1,448	572	1,827	564	1,804	507	1,917	567	2,386
Other agriculture, environmental and related studies	0	19	0	6	2	10	2	27	2	16	3	10	4	8	1	5	0	3
Total	2,178	7,929	2,155	7,937	2,013	7,842	2,136	8,021	2,267	8,150	2,419	9,259	2,587	9,870	2,519	11,062	3,158	12,589

Source: National VET Provider Collection, 2002-10.

Notes: 1. Full-time and part-time study modes are based on hours of delivery. For 2005 and 2006, this excluded hours associated with continuing enrolments in all states and territories, except Victoria. From 2007 onwards, continuing enrolments are excluded for all states and territories.

Table 1B: Full-time students by Highest current qualification level, Agriculture environmental and related studies' Victoria, 2002 - 2010

Highest current qualification level	2002	2003	2004	2005	2006	2007	2008	2009	2010
AQF Qualification	2,178	2,046	1,985	2,121	2,264	2,417	2,587	2,519	3,158
Diploma or higher	1,053	1,159	1,137	967	930	897	1,143	1,155	1,280
Certificate IV	279	286	285	319	370	344	418	286	466
Certificate III	587	424	453	624	793	987	855	905	1,058
Certificate II	259	177	107	203	171	188	170	173	350
Certificate I	0	0	3	8	0	1	1	0	4
Non-AQF Qualification	0	109	28	15	3	2	0	0	0
Other	0	0	0	0	0	0	0	0	0
Total	2,178	2,155	2,013	2,136	2,267	2,419	2,587	2,519	3,158

Source: National VET Provider Collection, 2002-10.

Notes: 1. Full-time and part-time study modes are based on hours of delivery. For 2005 and 2006, this excluded hours associated with continuing enrolments in all states and territories, except Victoria. From 2007 onwards, continuing enrolments are excluded for all states and territories.

2. Data for qualifications completed in 2010 are based on preliminary data submissions. Consequently they are not presented in detail in this publication. Preliminary estimates indicate that there was a total of 382 200 AQF qualifications completed in 2010 (compared with a preliminary estimate of 336 200 AQF qualifications completed in 2009). The 2010 data will be revised upwards in the 2011 VET Provider Collection to accommodate further notification of qualifications completed.

Table 1C: VET students enrolled in Field of education 'Agriculture environmental and related studies,' by Remoteness (ARIA+) region, Victoria, 2010

Remoteness (ARIA+) region	Male	Female	Unknown	Total
Major cities	5,054	1,731	11	6,796
Inner regional	6,112	2,161	6	8,279
Outer regional	3,320	898	8	4,226
Remote	145	61	0	206
Very remote	17	10	0	27
Outside Australia	152	157	0	309
Not known	201	74	0	275
Total	15,001	5,092	25	20,118

Source: National VET Provider Collection, 2010.

Notes: 1. Access/Remoteness Index of Australia (ARIA+) was developed by the National Centre for Social Applications of Geographic Information Systems (GISCA) based on ARIA. ARIA+ is now the standard ABS-endorsed measure of remoteness. It is an index of remoteness derived from measures of road distances between populated localities and service centres. These road distances are then used to generate a remoteness score for any location in Australia. ARIA+ forms the basis for the ABS 'Remoteness Structure' component of the Australian Standard Geographical Classification. ARIA+ was updated in 2008 from data contained in the 2006 Census of Population and Housing. The index has been backdated to apply to all years reported in this publication. As a consequence, ARIA+ data in this publication may not match previously reported data. For more details refer to <http://gisca.adelaide.edu.au/projects/category/about_aria.html>.

Statistics by ANZSCO intended occupation

Table 2 (A, B & C) outlines the characteristics of VET students intending to work in the occupational groups: Agricultural and Forestry Scientists (ANZSCO code 2341); Farm, Forestry and Garden Workers (ANZSCO code 8410); and Agricultural, Medical and Science Technicians (ANZSCO code 3110).

Table 2A: VET students enrolled by selected characteristics in occupations ANZSCO code 2341 – Agricultural and Forestry Scientists, 2007-2010

Characteristics	2007	2008	2009	2010
State/territory				
New South Wales	0	2	3	118
Victoria	101	4	20	60
Queensland	16	6	5	54
South Australia	0	0	0	7
Western Australia	0	16	14	65
Tasmania	9	19	12	42
Northern Territory	0	0	0	0
Australian Capital Territory	0	0	0	0
Age				
19 years and under	2	1	1	18
20 to 24 years	7	8	6	28
25 to 44 years	90	26	29	155
45 years and over	27	12	18	145
Not known	0	0	0	0
Sex				
Male	113	41	41	297
Female	13	6	13	49
AQF qualification level				
Diploma or above	18	18	23	130
Certificate IV	108	29	30	125
Certificate I, II & III	0	0	0	0
Non-AQF qualifications	0	0	1	91
Subject only - no qualification	0	0	0	0
Study mode²				
Full-time	8	30	22	205
Part-time	118	17	32	141
Apprentice/trainee status³				
Apprentices and trainees undertaking off-the-job training	20	9	11	36
Not apprentices and trainees	106	38	43	310
Total	126	47	54	346

Source: National VET Provider Collection, 2006-10.

Notes: 1. ANZSCO: Australian and New Zealand Standard Classification of Occupations (ANZSCO 2006) was not collected pre 2007 in the National VET Provider Collection.

2. Full-time and part-time study modes are based on hours of delivery. For 2005 and 2006, this excluded hours associated with continuing enrolments in all states and territories, except Victoria. From 2007 onwards, continuing enrolments are excluded for all states and territories.

3. Apprentices and trainees enrolled in the public VET system for off-the-job training. For further information: refer to the most recent Students and courses publication and supporting documents at <http://www.ncver.edu.au/statistic/31252.html>.

**Table 2B: VET students enrolled by selected characteristics in occupations
 ANZSCO code 8410 – Farm, Forestry and Garden Workers, 2007-2010**

Characteristics	2007	2008	2009	2010
State/territory				
New South Wales	289	249	215	173
Victoria	206	85	95	94
Queensland	351	247	372	490
South Australia	161	162	166	349
Western Australia	255	473	463	730
Tasmania	93	104	180	144
Northern Territory	441	466	590	540
Australian Capital Territory	0	0	0	0
Age				
19 years and under	1,027	1,037	1,120	1,239
20 to 24 years	146	138	228	288
25 to 44 years	379	398	470	640
45 years and over	157	165	235	335
Not known	87	48	28	18
Sex				
Male	1,325	1,300	1,570	1,911
Female	437	481	505	603
Not known	34	5	6	6
AQF qualification level				
Diploma or above	0	18	31	24
Certificate IV	0	5	1	4
Certificate III	0	0	0	0
Certificate II	1,183	1,078	1,390	1,780
Certificate I	613	685	659	711
Non-AQF qualifications	0	0	0	1
Subject only - no qualification	0	0	0	0
Study mode²				
Full-time	49	114	102	112
Part-time	1,747	1,672	1,979	2,408
Apprentice/trainee status³				
Apprentices and trainees undertaking off-the-job training	101	84	93	162
Not apprentices and trainees	1,695	1,702	1,988	2,358
Total	1,796	1,786	2,081	2,520

Source: National VET Provider Collection, 2006-10.

Notes: 1. ANZSCO: Australian and New Zealand Standard Classification of Occupations (ANZSCO 2006) was not collected pre 2007 in the National VET Provider Collection.

2. Full-time and part-time study modes are based on hours of delivery. For 2005 and 2006, this excluded hours associated with continuing enrolments in all states and territories, except Victoria. From 2007 onwards, continuing enrolments are excluded for all states and territories.

3. Apprentices and trainees enrolled in the public VET system for off-the-job training. For further information: refer to the most recent Students and courses publication and supporting documents at <http://www.ncver.edu.au/statistic/31252.html>.

**Table 2C: VET students enrolled by selected characteristics in occupations
 ANZSCO code 3110 – Agricultural, Medical and Science Technicians, 2007-2010**

Characteristics	2007	2008	2009	2010
State/territory				
New South Wales	1,110	1,172	1,196	1,255
Victoria	829	873	827	1,011
Queensland	617	624	699	851
South Australia	97	125	157	157
Western Australia	721	822	1,156	1,567
Tasmania	59	75	65	76
Northern Territory	6	4	11	6
Australian Capital Territory	72	60	70	74
Age				
19 years and under	795	731	879	1,107
20 to 24 years	885	900	939	1,119
25 to 44 years	1,453	1,628	1,802	2,117
45 years and over	373	492	559	643
Not known	5	4	2	11
Sex				
Male	1,373	1,524	1,724	2,270
Female	2,137	2,231	2,425	2,723
Not known	1	0	2	4
AQF qualification level				
Bachelor degree (pass and honours) or above	0	0	0	0
Advanced diploma	12	22	61	111
Associate degree	0	0	0	0
Diploma	1,692	1,672	1,862	2,092
Certificate IV	959	991	1,249	1,553
Certificate III	848	1,070	1,009	1,241
Certificate I & II	0	0	0	0
Non-AQF qualifications	0	0	0	0
Subject only - no qualification	0	0	0	0
Study mode²				
Full-time	1,618	1,584	1,749	2,063
Part-time	1,893	2,171	2,432	2,934
Apprentice/trainee status³				
Apprentices and trainees undertaking off-the-job training	467	764	894	1,234
Not apprentices and trainees	3,044	2,991	3,287	3,763
Total	3,511	3,755	4,181	4,997

Source: National VET Provider Collection, 2006-10.

Notes: 1. ANZSCO: Australian and New Zealand Standard Classification of Occupations (ANZSCO 2006) was not collected pre 2007 in the National VET Provider Collection.

2. Full-time and part-time study modes are based on hours of delivery. For 2005 and 2006, this excluded hours associated with continuing enrolments in all states and territories, except Victoria. From 2007 onwards, continuing enrolments are excluded for all states and territories.

3. Apprentices and trainees enrolled in the public VET system for off-the-job training. For further information: refer to the most recent Students and courses publication and supporting documents at <http://www.ncver.edu.au/statistic/31252.html>.

APPENDIX B**Information request 18 August 2011**

Dear Martin

Thank you for getting in touch to discuss the NCVER's proposed submission to the Victorian Parliament's Inquiry into Agricultural Education and Training. I am grateful for any assistance that you are able to provide.

The NCVER submission for the Victorian Parliamentary Inquiry into Farm Sector Workforce Capacity (the workforce capacity submission) provides a very useful resource for statistics and research on agricultural education and training. For the purpose of the Agricultural Education and Training Inquiry, it would assist us if you could either re-submit the workforce capacity submission with additional detail or attach the workforce capacity submission to your submission to the Agricultural Education and Training Inquiry.

I have outlined below some of the additional information which I consider would be useful for the Agricultural Education and Training Inquiry. This is my preliminary assessment, and I would value any other data or research which you consider relevant to the Inquiry. Please let me know if this data is not too hard to obtain, and I am more than happy to have a chat about the scope of my request.

Statistics by Educational Field

For both Victoria and nationally, the number of equivalent full time students by sector of education enrolled in 'agriculture, environmental and related studies' for the most recent 10 year period. If possible, it would be helpful if these statistics were broken down into the narrow educational fields of agriculture; horticulture and viticulture; forestry studies; fisheries studies; environmental studies; and other agriculture, environmental and related studies.

For Victoria, the number of equivalent full-time students by qualification level and sector of education for the field of 'agriculture, environmental and related studies' for the most recent 10 year period.

For Victoria, a breakdown of student remoteness and sector of education for those students engaged in the field of 'agriculture, environmental and related studies' for the most recent year available.

Statistics by ANZSCO occupations

I understand that the ABS has developed an 'alternative view' of agriculture which identifies 64 ANZSCO occupations related to agriculture (see <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1220.0First%20Edition,%20Revision%201?OpenDocument>). I wondered whether the NCVER has any data sets which look at selected characteristics (age, education, study mode, State and Territory, Sex) for this 'alternative view'?

If this information is not available, I would be interested in the selected characteristics (similar to Table 2 in the NCVER submission) for students enrolled in the following ANZSCO occupations:

- 234112 Agricultural Scientists
- 841000 Farm, Forestry and Garden Workers
- 311000 Agricultural Technicians.

Finally, I would be interested in any analysis which the NCVER is able to provide on the major trends in agricultural education and training in Victoria.

The Committee is looking at the full range of education and training settings as part of the Inquiry, including primary and secondary education, VET, higher education and agricultural extension (informal training). The Committee has not yet reached a view about the scope of the term 'agriculture'. In particular, the Committee is still considering whether forestry, fishing, aquaculture and hunting will be included in the Inquiry. For this reason, it is helpful for us to obtain disaggregated data with respect to these industry sectors and fields of education where available.

Thank you for your assistance and interest in the Inquiry. I would be more than happy to discuss any queries you might have about the above or the Inquiry more generally.

Kind Regards

Anita

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