## DAIRY INDUSTRY PEOPLE DEVELOPMENT COUNCIL

Tuesday, 22 November 2011

Committee Secretary
Senate Education, Employment, Workplace Relations Committees
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Sir/Madam,

### Re: Senate Inquiry into Higher Education and Skills Training to Support Future Demand in Agriculture and Agribusiness in Australia

Please find attached a submission by the Dairy Industry People Development Council (DIPDC) on behalf of the Australian dairy industry to the *Inquiry into Higher Education and Skills Training to Support Future Demand in Agriculture and Agribusiness in Australia.* 

This submission provides the Inquiry with a number of recommendations which:

- Focus on the need to link activities across the education sectors to promote a greater understanding of the role of agriculture and the opportunities for employment it provides
- 2 Recommend consideration be given to thin training markets and the price sensitivity of courses and their impact on the demand, delivery and funding of VET and the impediments to VET sector teaching capacity
- 3 Asks the Inquiry to consider opportunities and impediments to the national delivery of VET units and courses as well as gaining a greater understanding of the profile and capability of students undertaking VET in schools
- 4 Seek to improve the extent and effectiveness of VET programs in the dairy industry through the provision of greater flexibility in the construction of curriculum. In particular, an increase in dairy specific sets of competencies
- 5 Request a study into the supply and demand of students required within the agricultural service sector in Australia
- 6 Suggest consideration is given to the preparation of a collective workforce development strategy for the whole of Australian agriculture in partnership between industry sectors and governments

A letter of support for this submission from Fonterra Australia has been received and included in this submission

For further information regarding this submission, please contact Mr Ian Halliday, Managing Director, Dairy Australia on

Yours Sincerely,

Lynne/Kosky /

Dairy Industry People Development Council

Ian Halliday Managing Director Dairy Australia





## DAIRY INDUSTRY PEOPLE DEVELOPMENT COUNCIL

### Inquiry into Higher Education and Skills Training to Support Future Demand in Agriculture and Agribusiness in Australia

# by the Australian Senate Education, Employment and Workplace Relations Committees

Submission by the Dairy Industry People Development Council on behalf of Dairy Australia and the Australian Dairy Industry Council





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#### **EXECUTIVE SUMMARY**

The Dairy Industry People Development Council is pleased to have this opportunity to respond to the Senate Education, Employment and Workplace Relations Committees inquiry into Higher Education and Skills Training to Support Future Demand in Agriculture and Agribusiness in Australia.

The dairy industry sees the availability of both comprehensive education and training systems and skilled people as being critical to the ongoing growth of the industry and viability of regional communities within which the industry operates.

The Council has presented this submission on behalf of the Australian Dairy Industry Council (ADIC) and Dairy Australia. The ADIC is the national peak body for the Australian dairy industry and represents all sectors of the industry on issues of national and international importance. Its constituent organisations – the Australian Dairy Farmers Limited (ADF) and the Australian Dairy Products Federation (ADPF) represent the interests of dairy farmers and manufacturers, processors and traders across Australia, respectively.

Dairy Australia is the peak Australian dairy industry service body, and has an extensive understanding of the practical concerns of industry people, labour and training needs both in a pre farm gate and post farm gate sectors. As a leading Australian research and development corporation it works across the whole dairy value chain to initiate and support those activities that individual farm businesses or dairy manufacturers could not do on their own.

The dairy industry is one of Australia's major rural industries ranking third behind the beef and wheat industries. In 2010 nearly 45 per cent of annual milk production was exported, supplying 10 per cent of world dairy trade generating \$2.4 billion per annum in export income. Over 40,000 people are directly employed on dairy farms and in manufacturing plants across Australia generating significant economic activity and employment in country regions.

Australia has developed an established, competitive and well earned reputation as an exporter of high quality dairy products. Medium term projections for export demand in dairy products is positive with prices – while remaining volatile - predicted to trade in higher ranges over the next five to ten years. There is potential for growth in milk production in Australia.

There are significant challenges for the dairy industry, especially in the farm sector including dealing with price and income volatility and the need to improve industry productivity. The availability of suitably skilled people is now a real impediment to sustainable growth. Training and education are vital components to build the people capability of the industry. Significant industry funds are being invested in a range of programs to support people development in the industry. These initiatives are consistent with Commonwealth and State Government priorities.

Agricultural education and training have been and will continue to be critical to the ongoing development of people in the Australian dairy industry. There are significant shortages of skilled labour in the farm sector with the industry already implementing projects in an attempt to address the situation. A number of key points have emerged in our submission:

- For the dairy industry training and education are a means to an end. Training and
  education must support ongoing workforce development which is a key ingredient
  for improving industry productivity and ultimately improved dairy business
  competiveness, profitability and sustainability.
- The People R&D Strategy is a critical component of Dairy Moving Forward (DMF) an industry initiative to develop a strategy and capability plan to guide the Australian dairy industry's pre-farmgate RD&E. The industry over recent years has invested over \$4.5 million per annum in a range of collaborative projects and programs that enhance the capacity of the education and training sectors and the delivery of people development extension projects. The establishment of the National Centre for Dairy Education (NCDEA) as a national deliverer of VET courses for the industry is of particular significance.
- The dairy industry has high needs and expectations of the VET sector to deliver skills and work ready people for the farm, manufacturing and agribusiness sectors of the industry. However the dairy industry's experience to date is that elements of market failure are emerging in the sector with the demand driven approach. Issues of particular concern to the dairy industry are "thin training markets", price sensitivity to course fees and limited specialist teaching capacity, which all have the potential to lead to a sub optimal investment by dairy industry businesses in training and education. Current VET arrangements also impede the development of industry specific curriculum and the national delivery of some VET courses.
- In higher education agriculture, undergraduate programs delivered by universities are critical in preparing rural professionals for working in the service sector that supports the dairy industry. There is an urgent need to substantially increase the number of students undertaking undergraduate degree study in agriculture and expanding the range of options for rural professionals to undertake further dairy specialist tertiary education. Universities also play a vital role in research and development and the delivery of education through post graduate research programs.
- While the focus of this inquiry is on higher education and VET agricultural education in secondary schools needs to be considered as secondary schools are potentially an important feeder pathway for students to either enter the dairy industry immediately as farm employees and/or more generally to undertake further agricultural studies either in the VET or university sectors. Of particular concern to the industry is career advice delivered in schools and the standards of teaching for dairy specific subjects in VET courses delivered in secondary schools.
- The decline in agricultural education is multi-faceted. From the demand side the agricultural sector has a poor image and often not seen as an attractive career, especially for young people leaving school. For dairy farmers and employees there are concerns with the cost and/or quality of courses as well as time available to participate in classes. From the supply side perspective, RTOs face thin training markets and struggle to provide quality courses, at what are considered by potential students reasonable prices. In the agricultural sector increasing competition between RTOs is compounded by competition from a range of other information

- and practice change programs targeted at farmers. The dairy industry has funded a range of initiatives to address some of these issues but impediments remain.
- Shortages of skilled labour are being experienced across the dairy industry, especially in the farm and farm service sector. Difficulty in finding appropriate workers as farm hands or assistant farm hands has been evident for some time and now the industry is reporting difficulties in finding competent farm managers. The cost to the sector of labour shortages is potentially high, for example staff turnover on farms is above average and is estimated to cost at least \$30 million per annum. Many dairy farmers have limited personal experience as either employees or employers and this is believed to be contributing significantly to high staff turnover in the farm sector.
- The agribusiness sector servicing dairy farming provides a vital input to improving the productivity and profitability of dairy farms. There is now a critical undersupply of agriculture graduates to enter the sector with employers reporting they have employed environmental science graduates as the next best option. Feedback from the service sector also indicates there is little in the way of post graduate courses tailored to the needs of the dairy farming service sector.
- Each of the dairy states has a number of world class milk processing and manufacturing factories featuring the latest technology, plant and equipment. In addition to excellent facilities, the companies running these factories offer exceptional career opportunities for suitably trained personnel. Despite this, the companies consistently report an ongoing problem finding experienced staff with appropriate training, and often need to compromise on candidate selection criteria.
- Agricultural research is critical in the generation of new knowledge and
  understanding that underpins the delivery of leading edge extension and education
  services to the industry. While there are and will continue to be gaps in agricultural
  research capacity (both scientists and facilities) the dairy industry has, with both
  industry groups and the federal and state governments proactively dealt with
  research capability planning in an environment of competitive funding and an era of
  constrained government funding. The dairy industry works closely with universities
  to jointly fund the delivery of research and development including postgraduate
  training and research programs.
- A range of responses are available which should assist increase the supply of skilled labour to the dairy industry, some of which have already been implemented and could be expanded with additional funding. Others have been successfully piloted while some are still conceptual. While there are a wide range of potential solutions to address the widening gap between skilled agricultural labour supply and demand, the overarching need is to take a whole of industry approach to workforce planning and development. Agricultural industries with their established industry bodies, networks and strong partnerships with state and federal government agencies are well placed to partner with government on workforce development initiatives.
- The Australian dairy industry has a National Dairy Industry Animal Welfare Strategy that guides Dairy Australia's substantial investment into animal welfare programs. This ongoing program of work includes R&D, extension and education. All courses of study from AQF level II through to VI delivered by the NCDEA include animal units with an animal welfare component with learning resources designed specifically for the dairy farm sector. These units draw from and link to the broad range of resources developed and continually updated by Dairy Australia.

• In the dairy farm sector the relationship between informal learning, extension programs and VET programs is complementary but complex. From the farmers' perspective the gaining of knowledge for farm improvement is paramount. Farmers do not necessarily draw a distinction between the value of credentialed education of extension in terms of the quality of the knowledge to be gained and put to use on farm. The difference between extension and education is often clouded and thus cost is a consideration. Drawing on examples of successful collaboration the dairy industry is working to maximize the experience, expertise, funding and resources coming from both disciplines.

#### **RECOMMENDATIONS**

The dairy industry in this submission would ask the inquiry to consider the following 10 recommendations:

#### The Strategic Response to People Development (section 2.1)

#### **Recommendation 1:**

That the inquiry recognises the critical importance of linking the activities of the education sectors (primary, secondary, VET and tertiary) as well as integrating those educational activities with complementary industry programs with the goal of improving workforce development and industry productivity.

#### The VET SECTOR (section 3.1)

#### **Recommendation 2:**

The inquiry recognises the importance of thin training markets and their impact on the demand, course pricing and delivery of VET courses. The inquiry gives consideration for the need for funding models that that reflect the higher cost of delivering training in thin training markets typically found in rural areas of Australia.

The inquiry recognizes the price sensitivity of courses to many learners in the farm sector and the impact on the demand for VET courses in the sector. The inquiry gives consideration to options to mitigate against the price shock of rising VET courses fees.

#### **Teaching Resources (section 3.1.1)**

#### Recommendation 3:

The inquiry recognises the impediments to VET sector teaching capacity in delivering VET courses in thin training markets that meet contemporary industry needs and expectations. The inquiry gives consideration to options to allow VET providers to build appropriate teaching capacity.

#### Impediments to National Course Delivery (section 3.1.4)

#### **Recommendation 4:**

The inquiry recognises the opportunities and benefits from the national delivery of VET units and courses to student s across Australia. The inquiry gives consideration to options to address the impediments to national delivery in the context of a state funding VET system.

#### Appropriateness of Curriculum (section 3.1.5)

#### **Recommendation 5:**

To improve the extent and effectiveness of VET programs in the dairy industry and better meet the workforce training needs of the dairy industry, greater flexibility is required in the construction of curriculum. In particular the industry is seeking as a part of the continuous improvement process to increase the dairy specific sets of competencies, especially for complex technical units in areas such as genetics and artificial insemination.

#### **Career Choices in Secondary Schools (section 3.3.1)**

#### **Recommendation 6:**

The inquiry should assess the importance of secondary school agriculture studies and career advice in secondary schools as potentially influential pathways into the agricultural sector.

#### Vocational Education and Training (VET) in Schools (section 3.3.2)

#### **Recommendation 7:**

The inquiry should consider the potentially important role of the VET in schools program with the view to more clearly understanding the profile of students undertaking the VET in schools program, the competence of graduating students to either work on a farm and/or undertake further VET education and the usefulness of VET in schools as a pathway into the agricultural sector.

#### The Farm Services Sector (section 5.2)

#### **Recommendation 8:**

A detailed study is conducted to assess the current and projected demand and supply of students required to support a high quality agricultural service sector in Australia. The study should also consider the strengths and weaknesses of current undergraduate programs and the opportunities and strategies to address the emerging shortfall of agricultural graduates. This study should also consider enhanced pathways both into undergraduate courses and post graduation.

#### The Impacts of Any Shortages on Agricultural Research (section 5.4)

#### **Recommendation 9:**

The inquiry considers the experience of capability and capacity planning in the agricultural research sector to gain some insights and possible solutions to addressing declines in agricultural courses, education facilities and teaching capacity.

#### **Solutions to Address Skilled Labour Shortages (section 5.5)**

#### **Recommendation 10:**

That consideration is given to the preparation of a collective workforce development strategy for the whole of agriculture. The development of the strategy would be done in partnership between industry sectors and governments (state and federal) with recognition of the differing drivers and needs of the sectors and the stage of dealing with workforce development issues.

The inquiry considers opportunities for government to partner with agricultural industries to develop, co-fund and deliver workforce development initiatives. Those initiatives should include areas to recruit, train and retain skilled labour in industry sectors.

#### 1 INTRODUCTION TO THE DAIRY INDUSTRY

#### 1.1. Industry Situation and Outlook

The dairy industry is one of Australia's major rural industries. Based on a farm gate value of production of \$3.4 billion in 2009/10, it ranks third behind the beef and wheat industries. In 2010 nearly 45 per cent of annual milk production was exported, supplying 10 per cent of world dairy trade. About \$2.4 billion per annum is generated through dairy export income.

Approximately 25,000 people are directly employed on dairy farms with a further 15,500 in manufacturing plants. Related transport and distribution activities, service industries and research and development projects represent further employment associated with the industry.

Dairy is also one of Australia's leading rural industries in terms of adding value through downstream processing contributing \$12 billion annually to the nation's economy. Much of this processing occurs close to farming areas, thereby generating economic activity and employment in country regions. ABARE estimates the regional economic multiplier effect to be roughly 2.5 from the dairy industry.

Australia and Victoria in particular, has developed an established, competitive and well earned reputation as an exporter of high quality dairy products to many of the world's fastest growing markets. Medium term projections of world population and income growth, coupled with changes in dietary demands, point to increasing demand for dairy products – particularly from the developing world. Constraints on capacity for growth in many traditional exporting regions suggests that world milk supply will have difficulty keeping pace with this demand. This offers opportunities for both existing and new players as dairy commodity prices – while remaining volatile - are predicted to trade in higher ranges over the next five to ten years.

#### 1.2. Challenges Facing the Dairy Industry

The future for the dairy industry is not without significant challenges. Two issues are worth mentioning; price and income volatility and the need to improve industry productivity.

Figure 1 shows the variability of farm gate milk prices and farm cash income over the last twenty years. This volatility in farm business conditions is operating at amplitude of two to three times the historical level. It is the result of a mixture of increasing climate variability (and emerging climate change) and global influences on pricing and input costs (such as the global financial crisis). It is likely that the volatile operating conditions of recent times will persist rather than dissipate in the medium to longer term.

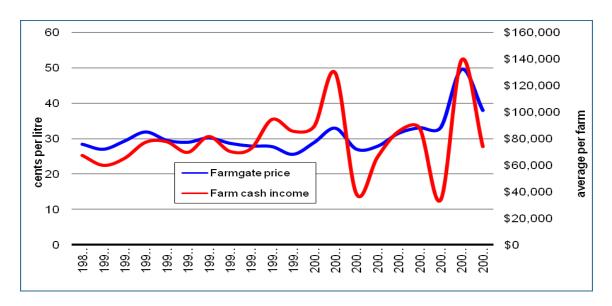


Figure 1: Variation in Farmgate Price and Farm Cash Income (Australian Dairy 1989 to 2009)<sup>1</sup>

Significant improvements in productivity gain is essential to reducing the impact of declining terms of trade and improving the competitive position of dairy businesses. Industry productivity (as measured by Total Factor Productivity<sup>2</sup>) for the farm sector has at best been modest over recent years having not exceeded 1.2% per annum growth since 2003/04. If the industry is to take advantage of the positive outlook for dairy products and the potential to increase milk production it must arrest static levels of productivity change.

Australia and especially the export oriented regions of the dairy industry are well endowed with natural resources for milk production however a critical and limiting resource is the human resource (i.e. people). This is both a quantity restriction (for example the availability of farm workers) and quality, in particular people able to deal with the volatile and increasingly complex operating environment of the dairy industry. Training and education are vital components to build the people capability of the industry.

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<sup>&</sup>lt;sup>1</sup>Dairy Australia, *Dairy Moving Forward, A National Research, Development and Extension Strategy,* September 2009

<sup>&</sup>lt;sup>2</sup> Total Factor Productivity is an industry efficiency metric measuring the ratio of total outputs to total inputs.

## 2. DAIRY INDUSTRY INITIATIVES IN PEOPLE DEVELOPMENT, TRAINING AND EDUCATION

#### 2.1 The Strategic Response to People Development

The Australian dairy industry has been working with partners for several years to identify and address national priorities, and take into account the RD&E requirements of the different dairying regions. Dairy Moving Forward (DMF) is an industry initiative to develop a strategy and capability plan to guide the Australian dairy industry's pre-farmgate RD&E.

DMF recognises the developing complexity in the dairy industry requires an informed and educated industry. People who are better educated, with increased competencies in relevant fields and who have access to quality information demonstrably<sup>3</sup> produce more from less. They also seek and find more opportunity amid complexity. Undeniably the dairy industry must commit to the development of general and specific capacities at the individual, company and organisational level. Important features include a national extension and education platform with an agreed competency and skills framework for industry development, supported by an industry "library of resources" and delivery capability.

Included in DMF is the People R&D Strategy<sup>4</sup> which identifies strategic priorities and describes the current projects relevant to the people development area.

While the focus of this inquiry is on labour skills and shortages and training and education it is essential to appreciate these are just two (albeit critical) factors that need to be considered. For the dairy industry, training and education is a means to an end. The end point is a more skilled workforce and in particular committed people who have the capability and capacity to contribute to internationally competitive, innovative and sustainable dairy businesses.

#### **Recommendation 1:**

That the inquiry recognises the critical importance of linking the activities of the education sectors (primary, secondary, VET and tertiary) as well as integrating those educational activities with complementary industry programs with the goal of improving workforce development and industry productivity.

<sup>&</sup>lt;sup>3</sup> World Bank 1999 Study; AgITO review

<sup>&</sup>lt;sup>4</sup> Dairy Australia, *Dairy Moving Forward – Research, Development and Extension – Priorities for the Australian Dairy Industry*, December 2010

#### 2.2 Important People Development Projects

Recognising the importance of people development the dairy industry has over recent years has been investing over \$4.5 million per annum in a range of collaborative projects and programs that enhance the capacity of the education and training sectors and the delivery of extension programs, these include:

#### • Dairy Industry People Development Council

Providing strategic leadership to the dairy industry's workforce development strategy.

#### Rural Innovation Research Group

A partnership with the University of Melbourne providing through a social science research base, input into the industry's program design and evaluation.

#### R&D projects

Commitment through input into the programs and services of the education and training system of the latest knowledge of the industry.

#### Extension programs

Partnering with the public and private sector to provide extension services to farmers, leading innovation and embedding new technologies on farm.

#### • The People in Dairy Program

Providing a people focused extension program to farmers including web based human resources tools, HR training for existing farmer advisors and workshops for farmers.

#### Discover Dairy

A range of resources that are made available to teachers and students in primary schools supporting curriculum related activities.

#### • Cows Create Careers

A national program providing support for school based connection between teachers and their local dairy industry.

#### • National Centre for Dairy Education Australia

The strategic partnership with the VET sector underpinned by an agreement between Dairy Australia, Goulburn Ovens Institute of TAFE and nine other TAFE Colleges across Australia.

#### PhD and other scholarships

Investments that attracts young people to specific fields of study and research in support of strategic priorities.

The dairy industry has undertaken these initiatives to enhance the provision of dairy education and to respond to perceived gaps in the existing education and training provision. While these investments in part address some of the opportunities, more can be done to ensure that existing education activities complement industry development programs with the aim of supporting the needs of individuals, businesses and the industry.

## 2.3 The National Centre for Dairy Education Australia (NCDEA) – a VET Sector and Industry Partnership

The NCDEA has proved to be a critical joint initiative between the dairy industry and a number of RTOs across Australia and has significantly enhanced the quality of dairy education and training delivery and the subsequent participation across Australia.

In 2005 the University of Melbourne withdrew from the provision of vocational training to the agriculture sector to concentrate on higher level education. With the support and funding from the Victorian Government the dairy industry formed a partnership with the Goulburn Ovens Institute of TAFE (GOTAFE), to ensure the provision of quality VET training to the dairy industry in the state. This partnership has seen significant additional investment from both Dairy Australia and GOTAFE. As such very high quality education and training curriculum products have now been developed by the NCDEA.

The NCDEA is a virtual organization or "franchise" led by the industry, underpinned by the partnership between Dairy Australia and GOTAFE. A number of TAFEs across Australia are also members of the NCDEA alliance:

- In the pre farm gate sector, the alliance includes GOTAFE, East Gippsland TAFE, Great Southern Institute (WA), The Skills Institute (Tasmania), TAFE SA (South Australia), Riverina, Illawarra and North Coast Institutes (NSW), South Queensland Institute of TAFE and the Australian Agriculture College Corporation (Qld).
- In the post farm gate activity is led by GOTAFE from the specialist dairy manufacturing VET facilities at Werribee.

By "partnering" the industry has leveraged a range of resources and programs to more effectively provide VET services that add value and are seen as credible by the industry. GOTAFE has increased its commitment in line with industry demand. Trainers and programs are perceived as being of higher quality and programs are more directly relevant to dairy farmers, dairy product manufacturers and the industry service providers as well as for industry leaders. As can be seen in Figure 2, participation in Victoria has almost tripled since 2005.

The industry has directly invested in:

- Developing and delivering dairy specific education and training curriculum across Australia including the support of e-learning delivery.
- Establishing and building strategic relationships with key bodies in the education sector.
- Developing and supporting effective NCDEA governance.
- Developing and enhancing a national network of RTO providers.
- Providing industry responsive development and extension programs to complement VET programs.
- Supporting the development dairy specific learning resources especially at higher level VET courses.
- Providing the NCDEA with access to highly quality industry credible trainers.

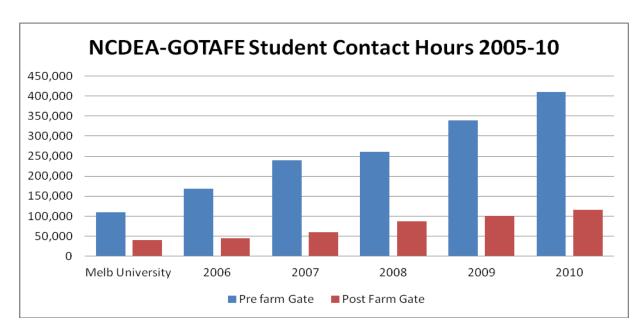


Figure 2: Student Contact hours for dairy programs in Victoria undertaken by NCDEA GOTAFE 2005 - 2010<sup>5</sup>

The NCDEA model has assisted RTOs in building stronger relationships with the dairy industry both at a strategic and local or operational level, particularly in Victoria. The dairy industry's Regional Development Programs (RDPs) in dairying regions across Australia provide direct conduits to and from the local dairy farming community. Regional Education Committees established by the NCDEA draw directly on the RDP networks. NCDEA regional offices in Victoria are co-located with some RDPs, for example in northern Victoria the NCDEA is collocated at Tatura with the RDP (Murray Dairy), along with the dairy research and extension groups of the Victorian Department of Primary Industries.

<sup>&</sup>lt;sup>5</sup> Data from NCDEA - GOTAFE

<sup>&</sup>lt;sup>6</sup> Regional Development Programs are autonomous bodies sponsored and part funded by Dairy Australia in the eight dairy regions in Australia.

## 3. HIGHER EDUCATION AND VOCATIONAL EDUCATION AND TRAINING IN THE DAIRY INDUSTRY

#### Terms of reference:

 The adequacy of funding and priority given by governments at the federal, state and territory level to agriculture and agribusiness higher education and vocational education and training;

#### 3.1. The VET Sector

The VET sector across Australia is quickly moving to demand driven models with the goal of ensuring training is more responsive to the needs of industry and individuals in a dynamic economy. The dairy industry has, as already outlined, high needs and expectations of the VET sector to deliver skills and work ready people for the farm, manufacturing and agribusiness sectors of the industry. However the dairy industry's experience to date is that elements of market failure are emerging in the sector with the demand driven approach and need more consideration as the models are implemented. Two issues of particular concern to the dairy industry are "thin markets" and price sensitivity to course fees which have the potential to lead to a sub optimal investment by dairy industry businesses in training and education.

#### 3.1.1. Thin Training Markets

The dairy industry believes VET education, especially in the farm sector has characteristics of a thin training market where demand for VET services has been modest and delivery exacerbated by the structure of the industry.

The dairy industry is located in rural areas of Australia with dairy farms often located some distance from regional towns. This is especially the situation for the dairying regions outside of Victoria. As a consequence potential student numbers at any point of time are small or at best modest.

Demand for VET services in the farm sector has for a range of reasons been modest, however the operating situation of the industry is rapidly changing. Until recently the farm sector was dominated by the family operated farm business where management and labour came primarily from within the family with little reliance on employed staff. Dairy farmers have very much been self direct learners often with improvements in farm productivity being supported by free government and industry extension programs sometimes supplemented by short course of units of VET study. Dairy farm owners (as students) often seek units of study rather than a whole course.

As dairy farms have grown larger paid employment is increasing. However the numbers of employees on a medium size family farm are still small, typically less than three or four. Paid staff will generally have either specialist roles (such as milking) or are required to have generalist skills and so it is difficult to have structured roles with opportunities for ongoing formal training and work progression within the business.

There is no requirement for dairy farms to be registered or for farmers (or employed staff) to be formally credentialed.

So unlike some industries where there are very high student numbers ranging from entry level through to professional, the dairy industry does not process the same volumes of students nor can it

easily sustain the same breadth of training offerings, especially to the standard expected by the industry.

As a consequence of the thin training markets the industry has difficulty in providing sufficient student numbers to support the delivery of viable and high quality training courses that meet the expectations of the industry. This is an especially important issue outside the main dairying regions in Victoria.

Thin training markets in the dairy industry lead to a number challenges in the provision of VET activities to the sector:

- RTOs often have difficulty in enrolling viable class sizes.
- Low class sizes leads to higher delivery costs per student.
- With limited student numbers, RTOs have limited capacity to support the specialist teaching
  expertise required to deliver the standard of VET programs expected by the dairy industry. This
  is particularly the situation for higher level courses. Alternatively course fees and funding
  structures inhibit RTOs engaging industry credible specialists as teachers.

Recognising the challenges of thin training markets the dairy industry has (as outlined in other parts of this submission) undertaken a number of significant initiatives such as the establishment and contribution of funding to the NCDEA.

Thin training markets are being addressed in Tasmania as part of the state skills training plan for the dairy industry in the state. The development of the Dairy Industry Skills Plan<sup>7</sup> has been led by Skills Tasmania (the state government VET authority) and Dairy TAS (the dairy industry Regional Development Program) in collaboration with a number of other partners. A key aim of the plan is to increase participation in VET programs.

Dairy Australia has provided support to the development and implementation of the plan including brokering an agreement with Skills Tasmania and the Tasmanian Skills Institute with provisions to fund programs beyond traineeships. Skills Tasmania has also agreed that the dairy training market is too thin for the funding of additional providers and agreed to exclude it from open competition. This strategy to deal with operating within a thin market is now working with both traineeship numbers increasing and non traineeship programs being serviced and supported by industry.

In the dairy manufacturing sector the dairy industry seeks to address thin national training markets by using NCDEA Processing to deliver national training programs specially tailored to the dairy industry (e.g. Certificate IV and Diploma of Food Science and Technology – Dairy; Vocational Graduate Certificate in Food Industry Management). As discussed in section 3.1.5 students outside Victoria must pay the full cost of course delivery with consequent impacts on course demand.

#### 3.1.2 Price Sensitivity to Course Fees – The Pre-Farm Sector

Price sensitivity to course fees is seen by the industry as a key impediment to increasing the rate of participation in VET courses, especially in the farm sector. Recent experience in Victoria illustrates this issue.

<sup>&</sup>lt;sup>7</sup> DairyTas & Skills Tasmania, *Dairy Industry Skills Plan*, August 2009,

The industry has identified that the changes to fees policy under Victorian Governments *Securing Jobs for Your Future* has the potential to damage the impetus the industry has created with participation in skills recognition and training by creating "fees shock". This is particularly relevant at the higher AQF levels as a consequence of the fee rate increase and introduction of the eligibility criteria.

Most of the participation in Skills Deepening training is undertaken in single units or skill sets. NCDEA and the Victorian Department of Primary Industries have conducted price sensitivity assessments around key programs such as "Feeding Pastures for Profit", a diploma level skill set. This analytical work indicates that a program priced at \$250 per farmer is acceptable, \$250 to \$350 will have some impact and priced above \$350 will significantly reduce participation. Under the new policy, the fee for those who are subsidy eligible would be \$682.20. For those who are non subsidy eligible the fee would be at a higher commercial rate.

Feedback from dairy farmers (via the dairy industry's Regional Development Programs) has supported these concerns. As a consequence Dairy Australia has accepted these estimates as being valid and has, over the past 12 months, chosen to subsidise certain key industry programs (e.g. Feeding Pastures for Profit, Certificate 4) in order to allow farmers to participate and operate below the recognised price points.

It is pertinent to note here that it was expected that approximately eighteen training programs would have been conducted across the State this year. When offered at the full fee rate, there were only sufficient registrations to fill one or two programs. In light of this experience, the industry has subsidised the programs at a rate of \$175 per person and it is expected that approximately nine programs will proceed.

Similarly the increased fees for skills recognition, which is often used as the first point of engagement and assessment for the farmer will impact on and potentially slow the strategy. If these programs were at "Cert III or IV level or Skills Building", fees would be \$331.20 rather than the \$682.20 "Skills Deepening" rate.

Few farmers commit to undertaking full qualifications, subsequently they pay increased rates through not reaching a fee ceiling or accessing Fee Help.

#### 3.1.3 Price Sensitivity to Course Fees – The Post-Farm Sector

The post-farm sector has had longer engagement with vocational training. Industry experience is that larger milk manufacturing enterprises typically have both a greater capacity and willingness to pay the increased course fees. For smaller manufacturing enterprises the capacity or willingness is less. An obvious impediment to manufacturers is the capacity and cost to find replacement staff or fund staff replacement during periods of off-the-job training. Such costs have been estimated by various employers as substantially higher than training enrolment fees.

However, the expected future fee demand on manufacturing enterprise clients generated by the changes to RTO funding from Skills Victoria could see enrolment fees for eligible students rise to a level that will seriously affect enrolment levels.

The post-farm gate sector has traditionally focused on manufacturing operative training related to product-specific technology and processes. As such, demand for vocational training and education Dairy Industry People Development Council Submission

services has been ongoing and consistent, within the constraints of a diminishing workforce population and a reduced certification requirement within a deregulated industry. However, the Victorian Government's eligibility criterion has limited the capacity of manufacturers to access support funding for technological change responsive training for their existing workforce.

Higher level post-farm gate educational programs frequently provide vocational education for new graduates (e.g. engineering graduates requiring dairy product and technology contextualization training) and career changers (e.g. trade qualified workers moving into production roles) – many of whom are deemed ineligible for funding support in the Victorian system.

#### **Recommendation 2:**

The inquiry recognises the importance of thin training markets and their impact on the demand, course pricing and delivery of VET courses. The inquiry gives consideration for the need for funding models that that reflect the higher cost of delivering training in thin training markets typically found in rural areas of Australia.

The inquiry recognizes the price sensitivity of courses to many learners in the farm sector and the impact on the demand for VET courses in the sector. The inquiry gives consideration to options to mitigate against the price shock of rising VET courses fees.

#### 3.1.4 Teaching Resources

Learning resources and teaching capacity are key determinants of successful student learning outcomes. With funding from both the dairy industry via Dairy Australia and GOTAFE, high quality dairy relevant dairy farm learning resources for all VET levels are now available to NCDEA partners across Australia. Supporting resources from agency and industry extension and development programs also complement these learning resources.

Teaching capacity to deliver VET to meet the needs and expectations of the dairy industry is however problematic. This is especially the case for AQF level 5 and 6 courses that require a high level of technical knowledge and experience in the context of the whole dairy farm. This particularly is a problem outside of dairy regions in Victoria where low students number inhibit the capacity for NCDEA partners to either employ staff with the required expertise or course funding limits the ability of partners to engage specialist industry professionals (such as veterinarians and agricultural consultants) to deliver units to the standard expected by the industry.

For the post-farm gate sector, thin markets and funding restrictions (particularly within Victoria) have significant implications for the NCDEA's ability to financially support high level staff expertise (especially with salary level differences to industry), maintaining staff currency and relevance, as well as reinvestment in pilot plant and learning resources.

#### **Recommendation 3:**

The inquiry recognises the impediments to VET sector teaching capacity in delivering VET courses in thin training markets that meet contemporary industry needs and expectations. The inquiry gives consideration to options to allow VET providers to build appropriate teaching capacity.

#### 3.1.5 Impediments to National Course Delivery

In light of the above assessment of the key challenges to an effective training system for the dairy industry the NCDEA sees the national delivery of VET as a way to significantly improve the efficiency and effectiveness of training and education to the dairy industry. In the manufacturing sector the NCDEA has for many years delivered the full range of VET courses across Australia as the sole provider of services. In the farm sector with nine collaborating RTOs the progress is more challenging and consequently slower, however progress is being made.

E-learning is another rapidly emerging opportunity for the NCDEA to delivery training nationally to the dairy industry. In the manufacturing sector the NCDEA is well advanced with all courses and units now available by e-learning mode. In the farm sector GOTAFE (in Victoria) are in a development phase with a range of courses and units available or in development for e-learning.

For both sectors a significant impediment to national delivery is the context of state based funding arrangements.

The NCDEA Processing group, as the sole Australian provider of the Certificate IV and Diploma of Food Science and Technology (Dairy), is only able to access state funding under the Victorian training system. As such, funding of interstate students is financially supported by the NCDEA Processing group as an industry service. However, the capacity of such a business model is threatened by reduced funding rates in Victoria, and the limited capacity of customers to afford fee-for-service enrolment fees.

For the farm sector the NCDEA has commenced piloting a national NCDEA Diploma in Agriculture that will meet the needs of the Australian dairy industry and will be jointly delivered by alliance partners in line with their teaching capacity. This approach aims for the cross delivery of units between RTOs in different states using e-learning. It seeks to get economies of scale with student numbers as well as access to specialist teaching expertise of each of the partners. The approach is presenting a range of technological and organisational challenges. In the context of state based VET systems there are a range of impediments around student enrolment and assessment as well as unit costing and funding.

#### **Recommendation 4:**

The inquiry recognises the opportunities and benefits from the national delivery of VET units and courses to student s across Australia. The inquiry gives consideration to options to address the impediments to national delivery in the context of a state funding VET system.

#### 3.1.6 Appropriateness of Curriculum

In 2004-2005 the farm sector of the dairy industry through national curriculum policy lost its capacity to establish dairy specific curriculum at all AQTF levels including course title (with associated critical coding for data reporting). Against quite considerable pressure from AgriFood Skills Australia (managing VET training on behalf of the Commonwealth Department of Employment, Education, and Workforce Relations) the dairy industry was able to maintain the Certificate III in Agriculture Dairy in the new combined Agriculture, Horticulture and Conservation and Land Management training package currently being implemented to commence in 2012. The industry was also disappointed that there was only one level five qualification, rather than provision for a Diploma of Agriculture: Dairy (catering for practical applied dairy farm managers) as industry perceives this as having significantly different and distinguishable requirements.

Through the enormity of the task of trying to strike generic competencies across these broad industry areas, for the last four or five years there has been little or no improvement of available units of competence through refinement or development of new units as applicable to the dairy industry. The industry did not have skill sets identified such as "Assistant Milker, Relief Milker, Herd Manager, Calf Rearer, Pasture Manager and Farm Financial Manager" which are required by the industry.

This is compounded by the purchasing guide cap on the number of contact hours that will receive Government funding support. At most qualification levels, the number of hours and therefore units that receive funding support does not meet all the competencies of the dairy specialist job functions at that AQF level. This is exacerbated for a dairy student when compared to a beef student, as the inclusion of the extra milking unit required to be added usually means that another important unit or skill cannot be included.

The dairy industry through the NCDEA and working from the ground up constructed a map of what was perceived to be "everything that was needed to be known to manage or operate a dairy farm". That then contributed to the construction of a list of skills and knowledge that was mapped to training package competencies. In the consultation phase comments were received from farmers such as, "There is no point giving a person a Diploma of Agriculture, and expecting industry to value the qualification if they cannot milk the cows". Similar feedback has been received from farmer across all VET levels. Pre existing and current rules of development of the training packages appear to disregard the training needs clearly expressed by industry participants. Similarly little value is placed on the concept that certificates (and units of competency) need to be nested or have prerequisites. While a relatively small percentage of farms are gradually moving in the direction of clear structured roles aligned to the AQF, farms are generally micro businesses and do not meet the industrial paradigm that the AQTF levels have been constructed to describe. The NCDEA has subsequently established an overlay, of industry requirements that are applied over the top of those described in the training package, for programs and individuals to be recognised with the "industry quality brand" – the NCDEA.

The amalgamation of these training packages also results in lesser capacity to understand industry participation rates by analysing course codes, as there are no designated dairy codes apart from the Certificate III.

The industry would seek support for the creation of dairy specific skill sets and other curriculum initiatives as part of the continuous improvement process.

#### Recommendation 5:

To improve the extent and effectiveness of VET programs in the dairy industry and better meet the workforce training needs of the dairy industry, greater flexibility is required in the construction of curriculum. In particular the industry is seeking as a part of the continuous improvement process to increase the dairy specific sets of competencies, especially for complex technical units in areas such as genetics and artificial insemination.

#### 3.2 The Higher Education Sector

The role of universities in providing education and training services for the dairy industry is complex and diverse. At one level universities play a critical role through their R&D and postgraduate programs in the generation of new knowledge and understanding that underpins the delivery of leading edge extension and education services by a range of agribusiness service providers. At an operational level through their undergraduate programs, their role and performance in directly providing agriculture education services that meet the needs of the dairy industry is mixed.

With less than five percent of Victorian dairy farm workers with a Bachelor degree or higher, undergraduate degrees are not typically seen as a priority pathway to dairy farm management in Australia. This is in contrast to the New Zealand dairy industry where a substantial number of dairy farmers and farm managers are tertiary educated. It raises the question why this is the case. Post secondary training in the dairy industry is dominated by the VET sector where one in four farm workers have some form of VET qualification. This probably reflects what is seen as the practical hands on approach of VET sector training aided by regional locations and flexible delivery.

Agriculture undergraduate programs delivered by universities are however critical in preparing rural professionals for working in the service sector that supports the dairy industry. This includes roles such as research and extension scientists, veterinarians, agronomists, nutritionists and farm business advisors.

For undergraduate education two issues are apparent to the industry, firstly the urgent need to substantially increasing the number of students undertaking undergraduate degree study in agriculture, and secondly expanding the range of options for rural professionals to undertake further specialist tertiary education to super-charge rural professional capacity. These issues are discussed in more detail in section 5.2 later in this submission.

Universities play a vital role in research and development and the delivery of education through post graduate research programs. This aspect of higher education is considered in more detail in section 5.4.

#### 3.3 The Secondary School Sector

While the focus of this inquiry is on higher education and vocational education and training brief comment should be made on issues relating to agricultural education in secondary schools as this sector is potentially an important feeder pathway for students to enter the dairy industry either

immediately as farm employees and/or to undertake further studies either in the VET or university sectors. Of particular concern to the industry is careers advice and VET in schools programs.

#### 3.3.1 Career Choices in Secondary Schools

Teachers, particularly careers teachers, play an important part in providing both the context of work and work opportunities to young people and to their parents. Numerous examples can be cited of young people being told "you could do much better than that" when referring to a young persons' decision to start a path to becoming a farmer. Emphasis is placed, for example, on pay rates, with little emphasis being placed on the opportunity for wealth creation that an occupation or career such as dairy farming through share farming or a farm management role can provide.

The dairy industry's experience is that the secondary school sector generally has a limited understanding of the job opportunities for students in the dairy farming service sector and the dairy manufacturing industry. These jobs are typically regionally based, well paid and offer diverse and rewarding career opportunities. This in part may account for the low and declining enrolments in agricultural science courses at universities.

The dairy industry has invested in providing resources and tools for schools as a strategic intervention, especially in dairying regions. One example is through the Cows Create Careers program. Through this project the industry supports groups of students to explore dairy industry career opportunities whilst having the opportunity to rear a calf, prepare dairy recipes or manufacture camembert cheese through structured programs. In 2010 participation across Australia included 179 schools in 20 dairy districts involving 6200 students and over 200 dairy farmers and other professionals

A number of state education departments support and resource secondary schools to specialise in agricultural studies especially in regional schools. In Victoria there is limited support for specialist agricultural secondary schools. It would be worthwhile to assess the impact of the agriculture programs in secondary schools on influencing student career choices.

#### Recommendation 6:

The inquiry should assess the importance of secondary school agriculture studies and career advice in secondary schools as potentially influential pathways into the agricultural sector.

#### 3.3.2 Vocational Education and Training (VET) in Schools

Participation in VET in schools' agriculture programs is a relatively new opportunity. In well constructed programs it has the potential to be an important pathway for young people to progress into the dairy industry.

The use of the National Training Package Qualifications and Standards creates challenges and opportunities in its use in a secondary school curriculum. In general the industry would consider that it is appropriate that Certificate II is delivered in a school environment, where appropriate work placements are provided where employability skills are covered. However there are some important caveats. 'VET in schools' is potentially an important pathway to work in the dairy industry so it is

essential students have the competencies and skills to work on a dairy farm and are able to experience the full twelve month cycle of dairy farming. Thus it is the industry's preference that Certificate II in Agriculture is completed as a school based new apprenticeship, where actual employment skills are gained over a 12 month dairy farm cycle. The caveat is most important as most of the basic farming skills are covered in Certificate II in Agriculture and for employability these must be able to be performed to workplace standard. This is not the case with many other training packages. Similarly those students should have an appropriate level of skill to articulate into further VET studies in dairy farming. It is therefore important that trainers who are delivering the relevant VET packages have a strong knowledge of the dairy sector and skills to deliver training at the standard expected by the dairy industry. The dairy industry is aware of RTOs and schools who would not consider it necessary to make use of appropriately skilled trainers/assessors in the delivery of VET in schools programs.

The industry has expectations that Certificate III graduates are competent farm hands on a par with other "trade" graduates and are able to work on a dairy farm. The industry has strong reservations about the capacity of secondary schools to teach this level of study and provide the industry and workplace currency required. It is of concern that without the necessary expertise in teaching Certificate III for agriculture some secondary school students may not meet the needs of the dairy industry.

#### **Recommendation 7:**

The inquiry should consider the potentially important role of the VET in schools program with the view to more clearly understanding the profile of students undertaking the VET in schools program, the competence of graduating students to either work on a farm and/or undertake further VET education and the usefulness of VET in schools as a pathway into the agricultural sector.

## 4 THE REASON FOR AND THE IMPACT OF THE DECLINE IN AGRICULTURAL EDUCATION

#### Terms of reference:

The reasons and impacts of the decline in agricultural and related educational facilities;

Underpinning the decline in agricultural courses and facilities is the reducing demand from students. At one level the agricultural sector has a poor image and is not seen as an attractive career. This is particularly the case for young people (as well as their parents and career advisers) as they consider career options at school.

At the operational level in the VET sector many dairy farmers and employees have, as already discussed, concerns with the cost and/or quality of courses. This is often compounded by other factors such as limited time available to attend courses, volatile incomes and impediments to structured learning.

From the supply perspective, as already discussed RTOs struggle to provide quality courses at what are considered by potential students at reasonable prices as they face thin training markets. This is compounded by the demand driven approaches and an increasingly competitive education market place where RTOs chase more profitable industry sectors.

Competition between RTOs for students for formal VET courses in already thin training market is compounded by competition from a range of other information and practice change programs targeted at farmers by groups such as Departments of Primary Industries, agribusiness firms, Landcare groups and industry development groups. From the farmers perspective these activities are seen as practical, short, sharp and to the point addressing issues of immediate relevance and importance.

As already outlined the dairy industry, through Dairy Australia, has undertaken and funded a range of initiatives, such as establishing the NCDEA in an attempt to address some of the issues associated with the decline in educational services provided to the sector.

As outlined in section 5.2 the number of applications for university agricultural science courses is now very low. Agricultural science is a four year course in contrast to a three year natural resource management (NRM) or science degree. NRM and science graduates are readily finding employment in the agricultural sector with a shorter time at university and paying less HECs fees may well be contributing to the decline in enrolments in Agricultural Science degrees.

#### 5 LABOUR ISSUES IN THE DAIRY INDUSTRY

Three sectors of the dairy industry need to be considered when assessing labour issues, the on-farm sector, the farm service sector and the post gate or manufacturing sector. While all sectors of the industry are experiencing labour shortages the industry has given particular focus to addressing issues in the on-farm and farm service sectors as they are characterised by small businesses where it is appropriate to develop programs for collective industry action. The focus of the industry is to develop people capability and capacity of the industry of which physical labour shortage is one, albeit critical issue.

#### 5.1 The Farm Sector

Dairy farming in Australia is shifting from an equity based industry to a labour based industry with a trend to the concentration of farm ownership on fewer larger farms, with a reliance on paid workforce. The progressive increase in herd size has seen a dramatic increase in the proportion of farms employing people other than family, moving from approximately 30% in 2004 to more than 70% by 2009. Dairy farms typically have 2 to 5 people working in the business.

Almost 60% of dairy farms have attempted to fill a vacant position over the past five years and just over half of these farms had difficulty finding the right person<sup>8</sup>. One quarter of these farmers said this resulted in a negative effect on farm performance. Some farmers are reported to have "just given up" trying to hire labour. This is particularly the case in Western Australia and Queensland with high levels of competition for labour from the mining industry.

Difficulty in finding appropriate workers as farm hands or assistant farm hands has been evident for some time. The industry is now reporting the difficulty of finding competent farm managers. The demand for employees with high level dairy farm management skills will increase as herd size continues to rise, properties aggregate, corporate investment in dairy farming rises and ageing farmers wanting to pull back from active management of their business by employing a manager to carry the major workload

Getting suitably skilled and committed people was not such an issue in the past when many farms were passed on to the next generation and the up-and-coming young farmers learnt the skills and practice of dairying from their family. The population of people who work on farm has become much more dynamic. Of the 25,000 people estimated to work in the industry, almost one-sixth of them (3,800) were recruited to farms during the past year<sup>9</sup>.

Retaining people in dairy farming is a major issue for the industry and is covered in detail in a recent research project undertaken by the Gardiner Foundation<sup>10</sup>. Staff turnover or "churn" on dairy farms

<sup>&</sup>lt;sup>8</sup> Dairy Australia, Situation & Outlook 2004-2009, Preliminary results from further analysis.

<sup>&</sup>lt;sup>9</sup> Dairy Australia National Dairy Farmer Survey 2010

Duny Australia National Duny Farmer Survey 2010

<sup>&</sup>lt;sup>10</sup> Nettle R, Semmelroth A, Ford R & Aman Ullah C, Retention of people in dairyfarming – what is working and why? Gardner Foundation August 2011

is typically high with industry surveys estimating that the average turnover rate of employees is 35% (measured as the number of employees who have left a farm job as a percentage of total employees). It is estimated that the annual exit rate out of the dairy industry is 15%. Although this is similar to New Zealand, in comparing this rate with other sectors in the Australian and international business sector, turnover rates are higher by over 10% with other sectors. <sup>11</sup> A recent <sup>12</sup> report has suggested that farmers possessing good people management skills are less affected by labour shortages.

The economic impact of labour shortages can be illustrated from a number of perspectives. A lot of dairy farmers have limited personal experience as either employees or employers. This is believed to be contributing significantly to high staff turnover in the farm sector. Staff turnover alone is very costly because of the expense of recruitment and training, loss of expertise and pressure placed on the remaining people; with estimates ranging from 50 to150% of the employee's annual salary, this is at least \$30 million dollars if 2,000 of the positions above are replacements at the most basic level (at say \$15,000 of costs per person)<sup>13</sup>. The benefits of "getting people issues right" around sourcing and deployment of the workforce in the farm business can be significant.

The outlook for the dairy industry in the medium term is positive with the potential growth in milk production driven in large part by the increased demand for exports. For example the Centre for Policy Studies<sup>14</sup> forecasts that employment growth across the Victorian dairy industry (farming and processing) could increase from 19,700 in 2010 to approximately 30,900 by 2017. This represents a 36% increase in the workforce over a seven year period. With shortages of skilled labour this potential growth could be compromised with economic costs to the industry directly and the economy more broadly.

Shortages of both the quantity and quality of labour available to the dairy industry (i.e. a skilled workforce) can impact on the productivity and profitability of the industry. For example conservative estimates from modelling in 2008 suggested that productivity improvements from better management alone can mean as much as \$200 per cow profit on some farms. This becomes a sizeable figure industry-wide, for example it is worth \$52,000 for a farm of 260 cows, approximately \$80 million per year to the industry if achieved on one-in-five herds. It is difficult to do anything but a simplistic estimate of the benefit-cost of people interventions as few of the contributing factors (a healthy workplace culture, good working relationships etc) are measured. But the risks of not getting it right are highly visible and seen as premature exit of dairy farms, people and investment from the industry. Farm profitability, a smooth easy-to-run operation and the health and well-being of its people are incentives for owners of dairy farms to expand.

These costs and the potential benefits have been a powerful driving force for the dairy industry to establish and commence implementing the People RD&E Strategy.

<sup>&</sup>lt;sup>11</sup> Nettle R, August 2010

<sup>&</sup>lt;sup>12</sup> Skills Victoria, *Workforce development plan for the Victorian grain and dairy industries,* (SED Consulting), December 2010

<sup>&</sup>lt;sup>13</sup> Nettle R.

<sup>&</sup>lt;sup>14</sup> Skills Victoria, December 2010

#### 5.2 The Farm Service Sector

The dairy farm sector has a dynamic service or agribusiness sector which now provides a vital input to improving the productivity and profitability of dairy farms. Suitably qualified staff with dairy expertise are critical to the agribusiness sector. There is ample evidence that an undersupply of graduates now exists in the agricultural sector. The Deans of Agriculture <sup>15</sup> have presented research documenting the significant shortfall between the number of graduates and the employment opportunities, particularly in the agribusiness sector.

"Based on the Productivity Commission Report (2005), the ACDA estimated that the job market for graduates in agriculture and related courses to be over 2200 per year for a graduate supply of fewer than 800 graduates per year from Australian universities made up of under 400 agriculture graduates ... and a similar number in related courses such as animal science, agribusiness, agricultural economics and horticulture."

As an indicator of the perceived demand by students and scale of offering, Table 1 presents the reported first round offerings for students applying for university places in Victoria and southern NSW in 2011. The extremely low number of applicants for agriculture programs is concerning. The final participant numbers, after acceptances, deferrals and other adjustments is not known, however the difference between environmental sciences and agriculture is stark.

The implications for the immediate future are bleak. To illustrate, using an estimated graduation rate of 70% gives an indicative 78 agricultural graduates available in 2015. This is in an environment of increasing rates of retirement of existing agribusiness advisors in the public and private sectors. This issue emphasises the importance of increasing the effort to promote agriculture as an attractive career option to secondary schools.

Employers report that they have employed environmental science graduates as a first preference, due to the unavailability of agriculture graduates, and then have invested significant resources to build their capability to be job ready. Feedback from the service sector indicates there little in the way of post graduate courses tailored to the needs of the dairy farming service sector. It is believed rural professionals are less likely to seek post graduate qualifications unless it can be paid for and completed as a part of their job. More support is needed from the tertiary education sector to provide such offerings for the industry.

There are potentially a broad range of reasons for this decline in the availability of suitable graduates however it is clear that specific and targeted strategies are required to increase the participation rate in University agriculture undergraduate programs and higher level VET courses.

<sup>&</sup>lt;sup>15</sup> Australian Council of Deans of Agriculture, *Capacity in Agriculture – A Matter of National Concern.* A submission to PMSEIC, August 2009

Table 1: First Round offers for places in Victorian and Southern NSW Agricultural and environment University programs, 2011<sup>16</sup>

Course category	Number of Programs	Total offers
Environmental Sciences	11	2,755
Animal and Veterinary Biosciences	7	118
Agriculture	5	94
Total	23	2,967

#### **Recommendation 8:**

A detailed study is conducted to assess the current and projected demand and supply of students required to support a high quality agricultural service sector in Australia. The study should also consider the strengths and weaknesses of current undergraduate programs and the opportunities and strategies to address the emerging shortfall of agricultural graduates. This study should also consider enhanced pathways both into undergraduate courses and post graduation.

#### **5.3 The Manufacturing Sector**

Each of the dairy states has a number of world class milk processing and manufacturing factories featuring the latest technology, plant and equipment. In addition to excellent facilities, the companies running these factories offer exceptional career opportunities for suitably trained personnel. Despite this, the companies consistently report an ongoing problem finding experienced staff with appropriate training, and often need to compromise on candidate selection criteria.

A specific example is in engineering. Companies are seeking qualified engineers who compliment their base qualification with an understanding of hygienic design for food processing equipment and also have sound business acumen skills. This mix is increasingly hard to find and manufacturers are looking at innovative recruitment practices in order to attract potential candidates. Even so, competition with other industries is making it increasingly difficult to find staff.

Around fifty percent of dairy manufacturing employees live in non-metropolitan or rural locations, as many products are processed close to milk producing areas. There is a barrier to many people choosing to relocate to rural and regional locations for work because of a perceived lack of service delivery - particularly in areas such as education. Attracting trade qualified staff such as electricians to these rural locations is especially problematic.

<sup>&</sup>lt;sup>16</sup> Victorian Tertiary Admissions Centre Web site http://www.vtac.edu.au Dairy Industry People Development Council Submission

The need for unskilled labour in the sector is reducing as manufacturing processes become more automated. Manufacturers require flexible, multiskilled employees who are able to build their skill base quickly. Up skilling through ongoing training is important. The post farm gate needs of the dairy industry are broad and incorporate a wide range of skill sets including Dairy Technology, Dairy Plant Maintenance, Transport and Logistics, Environmental and Risk Management, General Management. Many of these professions and skill sets require training accreditation to meet existing standards required by companies and customers.

Dispersed and thin markets in some areas create a problem for training service delivery to the dairy manufacturing sector. The industry has supported a national approach to dairy manufacturing training (as currently delivered by the NCDEA Processing) on the basis that a collaborative approach will ensure the survival of a training provider which has an appropriate level of depth and quality to meet the specific needs of the sector. As such the NCDEA focuses on training which is not covered by the general VET or tertiary sector.

#### 5.4 The Impacts of Any Shortages on Agricultural Research

#### Terms of reference:

#### • The reasons and impacts of the decline in agricultural and related educational facilities;

Agricultural research is critical in the generation of new knowledge and understanding that underpins the delivery of leading edge extension and education services to the dairy farming and manufacturing sectors by a range of service providers. Universities play a vital role in research and development and the delivery of postgraduate research programs.

The intent of *Dairy Moving Forward*<sup>17</sup>, the dairy industry agreed strategic priorities plan is to provide guidance to all stakeholders, including universities of the industry's strategic research, development and education/extension priorities. This plan has been developed under the auspices of the PISC (Primary Industries Standing Committee) Research & Development Subcommittee.

Dairy Australia has recently completed a discussion paper<sup>18</sup> that identified the needs and opportunities for the industry to build capability and capacity across key R&D disciplines for the next five years. In particular the paper stated:

In our view, the main disciplines where there is insufficient capacity to support important R&D for the Australian dairy industry in the next 5 years are ruminant nutrition, dairy reproduction, milk harvesting, veterinary medicine, and agricultural economics. There may also be some limitations in soil and water sciences, environmental sciences and integrated systems modelling, but further analysis is required. In animal genetics succession planning to maintain capacity will be important.

Across all disciplines, it is imperative that the Industry liaises with the major and other RD&E providers on changes in capability and capacity on an on-going basis to ensure succession planning

<sup>&</sup>lt;sup>17</sup> Dairy Australia, *Dairy Moving Forward – Research, Development and Extension – Priorities for the Australian Dairy Industry*, December 2010

<sup>&</sup>lt;sup>18</sup> King R, Dunshea F and Doyle P, Current and Future Research Capability for the Dairy Industry, April 2011

and replacement of expertise are effective. An annual audit of capability and capacity in the major dairy R&D providers that assess quality of the capability in the current discipline being practiced and stage of career would be useful.

A range of approaches to developing and building capability and capacity are canvassed. There is no one size fits all and different strategies will be appropriate depending on the discipline, the quality of the needed capability and the realities of the market.

The analysis presented provides the dairy industry and R&D providers with an assessment of gaps in capability and/or capacity across key R&D disciplines for the next five years. This should enable them to align their strategies for development, recruitment and retention of the capability and capacity required by the Australian dairy industry as agricultural and livestock R&D in Australia moves to a national delivery model. Clearly the major providers need to consider their role in R&D delivery to other industries, may need to consider planning at a sub-discipline level, and need to consider issues associated with capacity utilization (sufficiency of support services, infrastructure and operating funds). A model where the industry and R&D providers work collaboratively will be necessary to ensure the required capability and capacity.

The paper also highlighted the important role the industry has in stimulating undergraduate students to considering dairying as a career path (such as opportunities for course project work and industry work experience schemes) and then fostering post graduate studies to develop specialist research expertise in the dairy industry (such as post graduate scholarships, post-doctoral fellowships and mentoring schemes for emerging dairy research scientists).

The dairy industry has strong and targeted relationships with the university research sector. For example the Dairy Cooperative Research Centre is based at La Trobe University to address the dairy industry's research priorities for plant and animal genomics. The relationship with the University of Melbourne is focused on social research supporting industry change strategies.

The dairy industry has over the years developed a good working relationship with a number of universities to support of the industry's needs for R&D services. Underpinned by agreed research priorities and funding the dairy industry's need for postgraduate research programs are, as a general rule, generating suitable, quality research scientists. As indicated in the above quote, processes have been developed to manage emerging demands and potential shortfalls for research scientists.

#### **Recommendation 9:**

The inquiry considers the experience of capability and capacity planning in the agricultural research sector to gain some insights and possible solutions to addressing declines in agricultural courses, education facilities and teaching capacity.

#### **5.5 Solutions to Address Skilled Labour Shortages**

#### Terms of reference:

Solutions to address the widening gap between skilled agricultural labour supply and demand;

This submission has already identified a range of reasons for declines in both educational services and the availability of skilled labour. To increase the supply of skilled labour to the dairy industry there are a range of solutions, some have already been implemented and could be expanded with additional funding, others have been successfully piloted while some are still conceptual<sup>19</sup>:

- Cadetships and/or traineeships targeted at higher level VET courses (levels 5 and 6) to quickly develop skilled dairy farm managers.
- An expanded range of post graduate courses and programs to support the development of rural professionals in the agribusiness sector.
- Improved regional and national data availability and analysis relevant to the dairy industry that covers career pathways, training and education services and workforce planning.
- Improved promotion of and support for career pathways into and through the dairy industry.
   Promotion projects need to be highly targeted focusing on successful programs to date and drawing on established industry networks in dairying regions. Promotion of dairy farm employment should emphasize the opportunity for wealth creation as well as wage returns.
- Examine closely the high turnover amongst assistant farm hands and farm hands and explore strategies for identifying high-potential employees and providing "funnels" into attractive career pathways.
- Empower dairy industry RDPs and regional education committees to take a local leadership role
  in workforce development. There are opportunities to develop regional networks of better
  practice farmers, service providers, employment and career service groups regionally to
  generate retention systems.
- Improve the staff management capacity of dairy farm owners and managers through initiatives such as funded mentoring programs for dairy farmers and their employee(s). Here the aim is to reduce the current high level of staff turnover.
- Enhance regional capacity to match employment demand and supply for both farm owners and managers and the service sector. This includes the development of specific regionally based projects.
- Continue to support programs to develop industry leadership capacity.
- Review and revise the criteria used to assess skills shortages for state and federal government assistance programs with a view to including dairy farm workers and managers.

While there are a wide range of potential solutions to address the widening gap between skilled agricultural labour supply and demand the overarching need is to take a whole of industry approach to workforce planning and development. This needs to include the following attributes:

- Is undertaken at both the strategic and operational level with a whole of industry perspective.
- Undertaken in partnership with the industry using well established and well proven industry structures and networks.

<sup>&</sup>lt;sup>19</sup> See *Dairy Moving Forward People RD&E Strategy*, December 2010 (pages 146 to 153) for existing projects

- Incorporates rigorous analysis and planning to identify priorities and high pay off areas for action and investment.
- Incorporates monitoring and evaluation to track industry progress in improving workforce development and employment performance. This requires the collection of suitable workforce participation data.
- Has a focus on people and skills not just labour.
- Includes elements of recruitment of people into the industry, skills development (including training and education) with the aim of maximising retention of people within the industry.
- Covers all labour categories and skill types within the dairy industry and at all relevant course levels of education.
- Considers the respective roles and responsibilities of government, industry and the individual (student or business) in terms of selecting and funding specific initiatives or projects.
- The end point for workforce planning should be specific projects that have reasonable prospects for funding and success. (The industry's experience to date is there are a number of skills development plans with priorities and strategies however they often fall short of specific actions and projects.)

Ultimately employment and training decisions are made at the level of the individual dairy business or the individual as a student. This highlights that any workforce development plan understands the respective roles and motivations of government, collective industry action and the individual student or business.

Agricultural industries have a successful track record of collective industry funding and action in industry development including research, development and extension. The dairy industry is particularly well placed with established industry bodies and networks (including at the regional level) with strong partnership with state and federal government agencies. The collective industry provides government with a strong interface and connection to people and businesses on the ground and in the market place and is well placed to partner with government on workforce development initiatives.

The recently completed In2Dairy project is an example of an innovative labour employment project piloted in south-west Victoria that demonstrates the potential of a collaborative regionally based approach to recruit and place people into ongoing jobs on dairy farms. The project, conducted this year, was delivered by WestVic Dairy (a dairy industry RDP), Westvic Staffing Solutions and the NCDEA with funding from Dairy Australia, the Victorian Government, the Brotherhood of St Laurence and the Helen Macpherson Smith Trust.

Forty two participants completed their pre-employment course training, 21 farmers have been involved in the project with 17 people ranging from teenagers to men in their 50s having now secured ongoing jobs on dairy farms.

#### **Recommendation 10:**

That consideration is given to the preparation of a collective workforce development strategy for the whole of agriculture. The development of the strategy would be done in partnership between industry sectors and governments (state and federal) with recognition of the differing drivers and needs of the sectors and the stage of dealing with workforce development issues.

The inquiry considers opportunities for government to partner with agricultural industries to develop, co-fund and deliver workforce development initiatives. Those initiatives should include areas to recruit, train and retain skilled labour in industry sectors.

## 6. ANIMAL WELFARE AND AGRICULTURAL EDUCATION IN THE DAIRY INDUSTRY

#### Terms of reference:

The incorporation of animal welfare principles in agriculture education

The Australian dairy industry has a National Dairy Industry Animal Welfare Strategy that supports the Federal government's vision under the Australian Animal Welfare Strategy\_that "all Australians value animals and are committed to improving their welfare". The Vision of the National Dairy Industry Animal Welfare Strategy is for the industry:

#### To be leaders in the care of our animals

The Australian dairy industry has a mission to provide leadership to enhance its record for animal care, ensuring community confidence and market access.

Dairy Australia is making a substantial investment into animal welfare on behalf of Australian Dairy Farmers (ADF) and the Australian dairy industry. This ongoing program of work includes R&D, extension and education.

Many of the animal welfare priorities for the industry are integrated into Dairy Australia's industry extension and training programs. These programs support animal welfare principles for good practice animal handling and management through both theory and practice. Examples include:

- All courses of study from AQF level II through to VI delivered by the NCDEA include animal
  units with an animal welfare component with learning resources designed specifically for the
  dairy farm sector. These units draw from and link to the broad range of resources developed
  and continually updated by Dairy Australia. They include:
  - Handle livestock using basic techniques
  - Care for health and welfare of livestock
  - Rear newborn and young livestock
  - Implement animal health control programs
  - Implement procedures for calving
  - Supervise animal health control programs
  - Develop livestock health and welfare strategies
  - Develop and implement livestock feeding plans
  - Manage livestock production
- Healthy Calves Program provides resources and workshops for farmers covering industry recommended practices and standards and regulations for the appropriate handling and management of all calves including those destined for slaughter.
- Cool Cows an extension project to help dairy farmers manage the risk of heat stress in their herds.

- Grains2Milk provides information to farmers addressing the issues associated with feeding concentrates to dairy cows in order to minimise the risk of animal health and welfare issues such as acidosis and laminitis
- CowTime provides ways to make milking easier and reduce stress for both the milker and the cows in the dairy by ensuring a calm, quiet environment in the dairy through improved stockmanship.
- InCalf helps farmers improve the fertility of their dairy herds, reducing the need for intervention such as calving induction.
- Countdown Downunder helps dairy farmers manage mastitis in their herds, thereby improving herd health, cow comfort and milk quality.

More details on the dairy industry animal welfare program can be found at the following website –

http://www.dairyaustralia.com.au/Animals-feed-and-environment/Animal-welfare.aspx

#### 7. OTHER RELATED MATTERS

#### 7.1. Extension and Informal Learning

As with most other agricultural industries, ongoing farmer learning has always been a critical part of farm improvement and adjustment. Informal and self directed learning by dairy farmers has been supported by extension programs and VET courses with the focus primarily being on the farmer as the business owner and manager. With the growth in dairy farm employees the VET sector has increasingly focused on delivering VET courses to current and potential dairy farm employees. From the farmers perspective gaining knowledge for farm improvement the difference between extension and education is often clouded.

The relationship between informal learning, extension programs and VET programs is complementary but complex. The dairy industry through Dairy Australia (and earlier organisations such as the Dairy Research and Development Corporation) has had a long involvement with extension activities. Some of these extension activities are funded and delivered in collaboration with other organisations such as state Department's of Primary Industries (for example the very successful Target 10 project) while others in more recent years have been initiated by the industry itself (such as The People in Dairy Program). A number of the extension programs draw on the principles of education and indeed have incorporated structured VET units and courses as a part of the extension activities.

The establishment of the NCDEA as the industry's preferred training provider has already generated significant benefits for the dairy industry and provides enormous opportunities for the future. There are however challenges in better linking extension and education activities to meet industry needs. Differing funding and organisational priorities in the two sectors often impede collaboration. The respective roles of the education and extension disciplines are still contentious between respective professionals.

### **ACRONYMS**

ABARE – Australian Bureau of Agricultural and Resource Economics

ACDA - Australian Council of Deans of Agriculture

ADF – Australian Dairy Farmers

ADIC - Australian Dairy Industry Council

ADPF - Australian Dairy Products Federation

AQF – Australian Qualifications Framework

**GOTAFE - Goulburn Ovens Institute of TAFE** 

NCDEA - National Centre for Dairy Education Australia

PISC - Primary Industries Standing Committee

R&D – Research and Development

RD&E – Research, Development and Extension

RTO – Registered Training Organisation

TAFE – Technical and Further Education

VET - Vocational Education and Training

#### **REFERENCES**

Web links for references are included where available. For other reports contact Rodney Vile at Dairy Australia, 03 9694 3806 or <a href="mailto:RVIIIe@dairyaustralia.com.au">RVIIIe@dairyaustralia.com.au</a>

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### **ATTACHMENTS**

Dairy Industry People Development Council Overview Letter of Support – Fonterra Australia

#### **Dairy Industry People Development Council**

It has been identified that there is a need for the industry to increase its strategic focus and drive greater alignment of all of the elements and programs contributing to our people and workforce development strategies.

The industry has therefore established a Dairy Industry People Development Council with the following mandate:

The Dairy Industry People Development Council will lead and inform an integrated workforce development framework for the Australian Dairy Industry that will address the needs of individuals and organisations at both regional and national levels.

The Council will develop and articulate policies that will promote and support;

- Dairy industry workforce development research
- Dairy Industry leadership development frameworks
- People systems thinking and innovation
- Strategic change
- Synergies and efficiencies
- Alignment and balance of service provision including extension and education
- Accredited and non accredited training
- Standards, measures and evaluation

In response to the Primary Industries Ministerial Council strategy for alignment of national research and development priorities, the dairy industry has produced a "Dairy Moving Forward" plan which highlights the industry's research and development priorities of which people development is a major theme and component. This document will become a guiding document to the work of the Council with respect to the pre farm gate requirements. Work undertaken in collaboration with the industries Manufacturing Advisory Committee will similarly underpin the Manufacturing priorities.

The Council formally commenced operations in early 2011.

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Committee Secretary
Senate Education, Employment and Workplace Relations Committees
PO Box 6100
Parliament House
Canberra ACT 2600

18 November 2011

To Whom It May Concern

### RE: Inquiry into Higher Education and Skills Training to Support Future Demand in Agriculture and Agribusiness in Australia

Fonterra is a leading global dairy nutrition business. We employ and support farmers, suppliers and customers throughout New Zealand, Australia, South America, Europe and Asia. In Australia, Fonterra receives milk from around 1,500 dairy farmers and operates 10 manufacturing sites across Victoria, Tasmania, and New South Wales. We manage supply chains from the dairy farm, through all stages of dairy manufacturing, all the way to the sale and delivery of dairy products to wholesale and retail customers. We have a strong commitment in our business to maintaining and improving the sustainability of the dairy supply chain now and into the future.

One of the largest challenges to the future of Australian dairy is the lack of adequate educational and skills training opportunities for future industry leaders. The Australian dairy industry needs a significant development of its workforce to maintain existing size, productivity and profitability. The current workforce cannot fill many positions and portfolios. This poses a clear threat to the industry's future.

Fonterra has experienced its own challenges securing a well-trained workforce. On page two are testimonials from our staff and suppliers that highlight the difficulties posed by skills shortages.

Modern farms and dairy operations are complex businesses. Staff need a wide-ranging skill set to manage a sustainable and profitable operation. Agricultural management, financial expertise, mechanical and engineering skills, dairy production knowledge, and detailed licensing, compliance and regulatory understanding all fall under a modern farm manager's purview.

Government must acknowledge that education and skills training are critical to developing a workforce with the capability to grow the Australian dairy industry's international competitiveness, innovation and sustainability. Fonterra suppliers and staff have had positive experiences with <a href="https://doi.org/10.108/journal.org/">https://doi.org/10.108/journal.org/<a href="https://doi.org/10.108/journal.org/">https://doi.org/10.108/journal.org/<a href="https://doi.org/10.108/journal.org/">https://doi.org///doi.org/<a href="https://doi.org/10.108/journal.org/">https://doi.org/<a href="https://doi.org/10.108/journal.org/">https://doi.org/<a href="https://doi.org/">https://doi.org/<a href="https://doi.org

We believe this program (and similar initiatives organised by industry) addresses the specific needs of dairy farmers. We encourage Government to explore the parameters and scope of such programs as model examples of best practice, dairy-specific, skills training and education systems.

Finally, as education and skills training is an industry-wide concern, Fonterra fully endorses and supports Dairy Australia's submission to the Senate Inquiry as a thorough and accurate representation of the challenges faced by Australian dairy. We believe that Government should adhere to the broad recommendations of Dairy Australia.

We look forward to opportunities for closer engagement with Government in helping to improve the skills and capability of the people who work in our industry and who are vital to its ongoing success and sustainability.

Yours/sincerely

Simon Bromell

Managing Director, Fonterra Ingredients Australia

#### Testimonials from Fonterra suppliers and employees

#### Fonterra farmer supplier, South West Victoria

"There is a definite need and opportunity to develop a greater level of skill and capability in the dairy industry, both at the farm and service provider level. The highest priority has got to be developing capability in farm profitability [because] ultimately it is profitability that will ensure the future of the industry...The other area that will continue to be a challenge for farmers is change management — carbon pricing and volatile markets are a couple of examples of the issues we face today that we need the skills to adapt to."

#### Fonterra farmer suppliers, Tasmania

The farmers managing this 1250 cow Tasmanian operation were recruited from New Zealand due to a dearth of suitable local candidates. This manager had progressed through a structured farm management study and career path that combined on-farm training with management opportunities.

As managers, they have also found a limited pool of local, skilled staff and have chosen to access employees from New Zealand who were already proficient in the roles required. Locals placed little or no value in gaining these skills and eventually left the business.

"The easier access to on-farm and off farm training in New Zealand fits in well with the time pressures of working on a dairy farm and make it far more attractive for employees. It appears that the majority of courses in this area are held long distances away and at the wrong time of year."

#### Fonterra Milk Supply Officer, Gippsland Region

"Staffing issues on farm are one of the major challenges faced by farmers and the lack of skilled labour is a growing concern. The [Dairy HR] Diploma has been very worthwhile and since undertaking the course, I have assisted dairy farmers with a range of on farm issues:

- Recruiting staff and advising farmers on appropriate rates of pay, in line with Fair Work Australia
- · Helping farmers generate position descriptions, employment contracts and induction programs
- Engaging with farmers to explain Industrial Relations laws and their relevance to agriculture
- Helping farmers launch staff incentive and retention schemes"

#### Fonterra Regional Milk Supply Manager, Tasmania

"Having completed the [Dairy HR] Diploma I have had the opportunity to [see] the challenges faced by the industry in securing suitably skilled people. Farms have issues in finding, keeping and rewarding those that have the skill set required for managing all components of a [modern] dairy business. As the size and scale of dairy operations change, the knowledge required by those managing the farms continues to evolve. To ensure the business is run to its full potential, the management team must have a detailed understanding of financial aspects, staff management, legislation as well as dairy knowledge.

"The [Dairy HR] Diploma also provides a platform in which skill development programs can be found. In many cases the career path to dairy management isn't as clearly defined as it could be. The majority of training is still done on the family farm which provides a sound background but unfortunately at times doesn't provide broader development which could develop a farms production and profitability."