



final report

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RAD Meat Professionals – Developing the talent of red meat RD&A professionals

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Abstract

It is paramount that the Australian red meat and livestock industry continues to ensure that it has an adequate pool of highly skilled research, development and adoption/extension (RD&A) specialists dedicated to servicing the red meat industry. The *RAD Meat Professionals* project involved a comprehensive desktop review of capacity building programs and extensive industry consultation involving focus groups, a national survey (n=346) and webinars.

The project findings include the need for a coordinated role to facilitate the implementation of a 'people development strategy' comprising of four pillars that 1) attract students and professionals; 2) develops the skills, experience and capability of tertiary students; 3) build the skills and capability of professionals and higher degree students; and 4) creates a collaborative and supportive culture that connects the professionals and students across organisations, agencies and institutions.

The key recommendation from this project is to develop a business plan and implement the RAD Meat Professionals framework to ensure that the red meat industry has the RD&A skills and capability to deliver on the imperatives in the Meat Industry Strategic Plan (MISP) well into the future.

Executive summary

It is paramount that the Australian red meat and livestock industry continues to ensure that it has an adequate pool of highly skilled research, development and adoption/extension (RD&A) specialists dedicated to the industry. This is essential for the industry to deliver on the imperatives featured in the Meat Industry Strategic Plan (MISP 2020) and well into the future.

The RAD Meat Professionals project builds on the recommendations from the MLA Education Pipeline Review commissioned by MLA in 2013, which examined the investment, training and supply of scientists for the red meat industry and identified key recommendations to meet the RD&A needs of the industry.

The objective of the RAD Meat Professionals project was to create an enticing framework of activities to attract new entrants to the industry, and to build a culture that supports, nurtures and encourages RD&A professionals to make a long-term career commitment to the red meat industry. The primary outcome of the project is the design of a people strategy; the RAD Meat Professionals framework.

The methodology included a comprehensive desktop review of capacity building programs in the red meat industry in Australia and internationally and across other agricultural industries. It also involved extensive industry consultation with students, RD&A professionals working within the industry, producers as well as professionals who have left the industry. This was achieved via focus groups, a national survey (n=346), a panel session at the Australian Intercollegiate Meat Judging (ICMJ) conference and webinars.

Using the findings from the research, the key recommendation of the project is the need for a coordination role (supported by MLA) to facilitate the implementation of a 'people development strategy' for red meat RD&A, called the RAD Meat Professionals framework, which comprises four pillars:

- 1) RAD Meat Careers** - an information pillar that showcases the range and diversity of careers in red meat RD&A that aims to attract students and professionals from other industries.
- 2) RAD Meat Ready** - develops the skills, experience and capability of tertiary students interested in a red meat career.
- 3) RAD Meat Skills** - builds the skills and capability of professionals already working within RD&A roles and higher degree students.
- 4) RAD Meat Connect** - creates a collaborative, cohesive and supportive culture that connects the professionals and students across organisations, agencies and institutions

The review highlighted that there is a plethora of initiatives, opportunities and organisations, but there is no central point of information or support for professionals or students. There are also limited capacity building opportunities for red meat RD&A professionals, particularly with the ongoing trend of reduced public investment in RD&A and careers in the public sector.

Other agricultural industries such as dairy and cotton have a clearly defined people strategy for their industry. These strategies recognise the linkages between different sectors of the industry and different career stages thus have programs targeted at secondary and tertiary students, at the producer/grower level, through to industry leadership roles, as well as opportunities and initiatives for RD&A professionals. This helps to promote these industries as cohesive and connected with a wide range of opportunities for interesting and varied careers.

Industry consultation indicated that many students and professionals working in the red meat industry are choosing RAD careers based on their family background, an experience or an intrinsic passion for agriculture. However, early career professionals from the focus groups reported that they had found it difficult to identify clear career pathways from graduation across the range of careers in red meat RD&A.

Based on their experiences as early career professionals, participants in the focus groups highlighted the importance of encouraging students to be proactive in getting involved in extra-curricular activities such as the ICMJ, Future Farmers Network (FFN), agricultural interest groups, and breed/show societies to establish networks and to be exposed to opportunities for further skill development.

Opportunities for students to participate in real work situations during study are considered to be the best way to develop invaluable 'work-place' skills, contacts and confidence and also provide greater exposure to the range of roles available in RAD Meat.

A key challenge for the red meat industry is ensuring that the industry can attract students to undertake higher degrees such as Masters and PhDs and for industry to subsequently retain these researchers in red meat RD&A roles after they receive their qualifications. Findings show that incentives to undertake higher degrees must include competitive stipends including operational costs, but also opportunities for broader skill development, networking with other postgraduate students and engagement with industry.

For professionals working in RAD Meat roles, there was a clear demand for a consistent, coordinated approach to ongoing technical training and professional skills development. The value of this ongoing learning is reinforced by the willingness of professionals to invest their own time and resources into professional development. Implementing technical updates for RAD Professionals is a key initiative proposed under the RAD Meat Skills pillar.

Combining access to professional development and training with more flexible working arrangements including working from regional locations and opportunities for networking would improve the retention of industry's highly qualified professionals. These elements were clearly seen as more important than simply greater remuneration, however more consistency and reliability of operational funding is critical.

Professionals also want to feel like part of a recognised and respected industry profession and to be valued for their efforts in continued skill development. It is proposed that an annual awards process be developed to help promote the red meat industry as having a progressive and positive culture and to acknowledge and celebrate the achievements of RD&A professionals.

A strong and consistent finding across the research was the value of networking, information exchange and collaboration both formal and inform across the variety of RD&A careers and at all stages of career development. Providing a national networking platform for all professionals engaged in red meat RD&A is a key element of the RAD Meat Connect pillar.

In conclusion, the implementation and promotion of the RAD Meat Professionals framework along with recommendations under the four pillars will help to attract new entrants to RD&A roles as well as providing development, support and encouragement for skilled RD&A professionals to have a long-term commitment to the red meat and livestock industry.

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1 Background

The importance of enhancing the human capacity and capability is clearly featured within the MISP 2020 which identifies 'leadership and collaborative culture' at the highest pillar level, and 'building industry capability' as a key priority. The MISP emphasises that 'the capability and profitability of our industry are intrinsically linked: a profitable, resilient industry attracts the 'best and brightest' minds; such talent and expertise helps build profitability and resilience. We must continue to build a performance culture and business skills throughout our industry. This includes providing and packaging information and training to support informed and business-oriented decision-making by all participants'.

A key activity in the Sheepmeat Industry Strategic Plan (SISP) 2020, is to 'Establish strategies to promote and support career paths and implement professional and skill development capability within the industry'. The Beef Industry Strategic Plan (BISP) 2020 also identifies building industry capability as a top priority with activities including support for leadership development and training across the beef value chain and the development of career pathways.

There have been a number of reports investigating the shortage of professionals across the Australian agricultural industry. The 2012 Senate Committee on Education, Employment and Workplace Relations references in their report that 'Higher education and skills training to support agriculture and agribusiness in Australia highlighted gaps in education, training and coordination across all levels of the education pipeline'.

In submissions to the Senate Committee the Australian Council of Deans of Agriculture noted that the decline in graduate numbers has implications for the productivity of the industry, and the sustainability of agricultural research and education. The Department of Agriculture, Fisheries and Forestry noted that capacity for innovation is determined not only by workers' characteristics such as education, business acumen, financial resources, skilled labour but also access to public and private extension services.

More recently the Department of Employment considered in February 2015, that there was no shortage of agricultural consultants/scientists with sufficient applicants applying for advertised vacancies. However the report also noted that at least 14% of applicants were not suitably qualified and a further 65% had the required qualifications but lacked experience. Furthermore, almost half of all applicants were at least partly internationally trained and thus often overlooked by employers who consider that they would not have the required Australian experience.

These findings suggest a critical need for programs which:

- provide graduates and others with research experience;
- assist employees and employers to transfer skills across industry sectors;
- assist international graduates to gain local experience and demonstrate their value to Australian employers;
- provide Australian employers with an understanding of the skills international graduates may bring and what specific training they may need to adapt their knowledge to Australian conditions.

Recognising the findings of these reports and internal observations of staff turnover, the MLA Education Pipeline Review was commissioned in 2013 to ensure that adequate numbers of scientists will be available to conduct the necessary RD&A (Stephens et al 2013). It recognised that without an adequate supply of scientists, MLA cannot meet the objectives of the MISP.

Particular recommendations from Stephens et al (2013), which will be addressed in this project include:

- the design of a program specifically focussed on development of human capacity and including the enhancement of the science education pipeline;
- a focus on ‘people’ which will involve knowledge of, and active networking with RD&E professionals, and investing in leadership development;
- inspiring students to become part of the red meat industry through a greater partnership approach and, from other RD&A employers for MLA to participate in career programs specifically focussed on development of staff.

This project aims to develop an enticing RD&A career framework for Australia’s red meat and livestock industry which attracts new entrants to the industry and which supports, nurtures and encourages the retention of its skilled professionals.

1.1 Industry benefits

At an industry level, enhancing the human capacity and capability in RD&A, will ensure that sheepmeat and grassfed beef producers have access to an adequate number of dedicated and skilled RD&A professionals across the value chain to deliver the imperatives featured within the MISIP and importantly, well beyond 2020.

The benefit for producers as outlined in the MISIP 2020, determines that ‘the capability and profitability of our industry are intrinsically linked: a profitable, resilient industry attracts the ‘best and brightest’ minds; such talent and expertise helps build profitability and resilience.’

In particular, this project also focuses on ensuring that RD&A professionals have the skills to engage with producers to identify research priorities, design effective research programs and to facilitate adoption of the innovation. An investment in nurturing and building the skills of RD&A professionals should encourage long-term commitment to careers in this field. This is essential for both long-term productivity and profitability for industry and also reduces the cost of staff turnover, both financially and in lost corporate knowledge.

2 Project objectives

The objective of the RAD Meat project was to create an enticing RD&A platform of activities for Australia’s red meat and livestock industry which attracts new entrants to the industry and which supports, nurtures and encourages the retention of its skilled professionals.

Outputs of the project include:

1. A review of the current career landscape (including MLA’s Education Pipeline Review) and determine what other industries (in Australia and overseas) are doing to provide attractive career pathways.
2. A survey and focus groups of university students, current industry RD&A professionals, as well as those who have left the industry, to identify specific attributes which attract and retain, or deter them from a career in red meat RD&A.
3. Design and review of a professional development program (including a coaching and mentoring program, for early career RD&A professionals) and provide MLA with recommendations for a full program rollout.
4. Review existing livestock industry RD&A career promotional material and provide recommendations on improvements.

5. Deliver a final report to MLA with recommendations on how to attract young people to the industry and how to build a culture that supports, nurtures and encourages RD&A professionals to make a long-term career commitment to the industry.

Note – for objective three, a coaching and mentoring program was not developed as part of the RAD Meat project. Meridian Ag is running a separate pilot mentoring program called ‘A Leg Up’ which will aim to complement the RAD Meat Project.

3 Methodology

3.1 Desktop review

A desktop review was conducted using the project team’s extensive industry contacts and experience with specific leadership and professional development programs. A web search was also conducted on capacity building, professional development and leadership opportunities that currently exist in the red meat industry and in other agricultural industries within Australia and internationally.

This report includes a desktop review of:

- the current pathways into a career in red meat RD&A
- existing (and historical) professional development opportunities in the red meat industry
- professional development programs in other agricultural sectors
- professional development programs in red meat in other countries

3.2 Focus groups

Two focus groups were conducted. The first involved staff from the Katherine branch of the Northern Territory Department of Primary Industries and Resources (NTDPI&R) on 4 November 2016. This group represented both research and extension professionals in the northern beef industry. The group was used as a pilot to test the structure and questions to be used in subsequent focus groups and also to review the draft survey.

Attendees were sent the survey a few days before the focus group meeting to give them the opportunity to complete it beforehand. At the focus group session, the facilitator (Maria Thompson) used a structured set of questions to form the basis of the discussion with additional questions asked based on responses and group interactions. Specific feedback on survey questions was also sought.

The second focus group was conducted on 18 November 2016, alongside the Future Farmers Network Young Beef Producers Forum (YBPF) in Roma. Delegates to YBPF were asked to indicate their interest in attending the focus group when registering for the full forum and additional participants were also invited from the list of forum speakers and tradeshow sponsors. The purpose of this was to ensure a mix of producers, students and RD&A professionals. The basic format was the same as the pilot focus group with minor changes made to the order and wording of structured questions based on feedback from the pilot.

A pilot panel session was held during the 2017 Australian Intercollegiate Meat Judging (ICMJ) Conference in Wagga Wagga, NSW. The conference program included presentations from people with a diverse range of careers across the red meat sector from producing, processing, value-adding, capacity building and consumer product development.

Throughout the conference, presenters shared their career journeys with the 125 tertiary students and 35 coaches. Following these presentations, the RAD Meat panel was formed which included two presenters and two ICMJ committee members. The panel was designed to cover a range of careers including lecturer/researcher, food scientist, consultant/extension and processor/research project management. Each of the panellists was asked to answer the question:

“What advice would you give yourself on your graduation day?”

The session then opened to students being invited to pose questions via SMS, which were transcribed to the big screen.

Two webinars were conducted in August 2017. The first included a group comprising of RD&A professionals working in the red meat industry, a PhD student and two people who had previously worked in red meat RD&A. The aim of the webinar was to seek feedback and input on the draft framework.

A second webinar was conducted for the interns involved in the 2017 Future Livestock Consulting Internship program.

3.3 Survey

A survey was designed using the full features of the SurveyMonkey® program. Questions were developed based on the findings of the Stephens et al (2013) review and the objectives of the RAD Meat project. Refinement of the questions and answer options were made following the first focus group and feedback from MLA staff.

The survey was shared and promoted:

- As a launch at the YBPF in Roma and delegates were invited to complete the survey during breaks at the forum
- Via social media including Facebook, Twitter and LinkedIn
- Through a blog on the project team’s website
- Via a [Beef Central](#) and Sheep Central articles published on 9 and 12 December 2016
- Through the Future Farmers Network Weekly Top 5 newsletter
- Direct email to as many RD&A professionals for whom email addresses are publically available
- Direct email to over 140 students and coaches via the ICMJ database.

A full copy of the survey is provided in Appendix I.

4 Results

4.1 Desk-top review

4.1.1 Introduction

The MISP 2020 identified the development and retention of motivated and appropriately skilled people as a key factor in achieving the vision of “guaranteeing vital food for the nation and the world”.

The RAD Meat Professionals project builds on the recommendations from Stephens et al (2013), which examined the investment, training and supply of scientists for the red meat industry and identified key recommendations to meet the RD&A needs of the industry into the future. This

project will focus on identifying the challenges and developing strategies to attract, retain and build the capacity of RD&A professionals in the red meat industry.

4.1.2 Australian red meat RD&A career landscape

4.1.2.1 Defining red meat RD&A professionals

For this project, red meat RD&A professionals (RAD professionals) are defined as individuals working in or studying at a post-graduate level, which contribute to the improved productivity, profitability, quality, safety, or sustainability of the Australian grassfed beef, sheepmeat, or goat industries as well as those who manage the funding and strategic direction of RD&A.

The targeted professions are included in Table 1. Red meat RD&A specialist roles have been identified as primary targets. While industry service provider roles, natural resource management (NRM) and other roles have been identified as secondary.

These positions may fall within private businesses and companies, industry organisations, research development corporations, universities, government departments or non-government organisations.

Table 1. Professions in the red meat industry

PRIMARY	SECONDARY
<p><u>Red meat RD&A Specialists</u></p> <p>Animal scientist/researcher - beef, sheep, goat Meat scientist Extension/adoption officer Research/adoption program manager Lecturer/supervisor Consultant/advisor Pasture agronomist Producer Livestock veterinarian</p>	<p><u>Industry Services</u></p> <p>Agripolitics /advocacy Animal health/livestock products rep Livestock agent Livestock veterinarian Animal nutritionist Livestock geneticist Biosecurity officer Pasture agronomist Rural banking /agribusiness Agriculture economist</p> <p><u>Other</u></p> <p>Journalist Marketing</p> <p><u>NRM Specialist</u></p> <p>NRM/environmental management - researcher NRM/environmental management - extension officer NRM/environmental management - program manager</p>

4.1.2.2 Pathways into red meat RD&A careers

The most common pathway into agriculture RD&A careers is via a bachelor or post-graduate degree as illustrated in Figure 1.

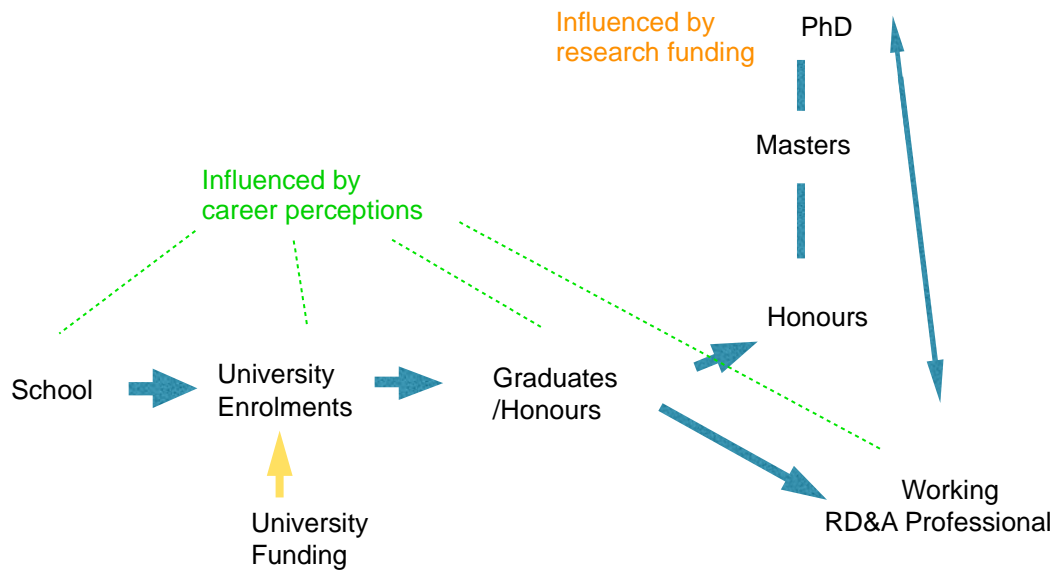


Figure 1. Common pathways to RD&A careers in the agriculture industry (adapted from Pratley 2016).

The agriculture RD&A career pathway usually begins when students make a decision to study agriculture at a tertiary institution (university or vocational college). Pratley (2016) noted that universities and other tertiary institutions are funded and resourced on the number of enrolments, which are determined by student intakes.

Student intake and career choice are influenced by a range of factors including perceptions of good career prospects, remuneration after graduation and the image of the sector. Hence it is essential to have an effective communication link from industry to both prospective students and university graduates to ensure a positive image of the red meat sector, and to showcase employment opportunities and attractive career or research pathways.

The majority of researchers in the Australian agriculture RD&E system are employed by either the Commonwealth Scientific and Industrial Research Organisation (CSIRO), state departments of agriculture, CRCs, universities or as researchers in the private sector.

The traditional pathway for researchers/scientists is Honours followed by a PhD, postdoctoral appointment(s) and then employment as a scientist. Stephens et al. (2013) estimates that this pathway may be delivering 40-90% of postgraduate output and is believed to attract the 'best and easiest students'. But it is a widely held view by academics/university leaders 'that these students often lack industry context/understanding and real-world experience, and may require close supervision and will need mentoring' (Stephens et al 2013).

An alternative pathway involves 3-10 years work experience before undertaking a PhD. These students are perceived to retain their industry links and undertake the most successful projects (Stephens et al 2013).

To ensure that a regular supply of trained researchers are entering the system to fill capability gaps, agriculture industries and in particular the red meat industry, will need to present attractive conditions, sustainable levels of research funding and a clear career path for the doctoral graduate (Australian Academy of Science, 2017).

4.1.2.3 Attracting students to agriculture and into careers in RD&A

At the primary and secondary school level, there is a variety of across-industry initiatives undertaken by Primary Industries Education Foundation Australia (PIEFA) aimed at embedding agriculture into school curricula. Other programs that aim to engage students in agriculture include Art4Agriculture, numerous career expos and activities run by industry and Royal Agricultural Societies (Pratley 2016).

The ICMJ is increasingly receiving interest from secondary schools and agriculture organisations across Australia to provide a program to students to promote careers in the red meat industry.

4.1.2.4 University intakes and graduates

In Australia, there are thirteen universities that offer a degree course in agriculture or related agricultural areas (ACDA, 2017). There are also a number of Vocational Education and Training (VET) institutions offering agricultural related courses. However the majority of RD&A professions hold either a bachelor or post-graduate degree.

Total agriculture course intakes declined from 1,700 in 2001 to a low of 940 in 2012. This caused major concern for the Australian Council of Deans of Agriculture and across the agricultural industries resulting in a range of initiatives such as the Career Harvest program and website to help increase the interest in agriculture careers.

Agricultural intakes have since improved with 2016 figures indicating over 1500 intakes, which may be attributed to strong performance in the agriculture sector, a decline in competing industries such as the mining sector as well as the success of the initiatives to build interest in agriculture careers (Pratley 2016).

4.1.2.5 Demand for agriculture RD&A graduates

Employment outcomes for graduates with a bachelor degree in agricultural science and related disciplines are strong and have been much more resilient than those for bachelor degree graduates in general. In 2014, 88 percent of these graduates were in full-time employment four months after graduating (significantly higher than the average for all bachelor degree graduates) (ADE, 2015). Pratley (2016) also reports that graduates are in high demand with upwards of five jobs per graduate and that the employment market for agricultural graduates continues to be buoyant.

Similarly, the Australian Department of Employment's (ADE) 2015 Agricultural Scientists and Consultants report found that employers filled 91 per cent of their surveyed vacancies (unchanged from 2014). There were 17.1 applicants, on average, per vacancy, of whom 3.3 were considered by employers to be suitable. Some employers still raised concerns over the low number of graduates entering this labor market.

All surveyed employers sought tertiary qualified applicants, with most preferring those holding a degree in agricultural science (ADE 2015).

Agricultural scientists and consultants reported that the proportion of agricultural consultants aged 45 years or older (58 per cent) is well above the all occupation average (40 percent) and that for agricultural scientists (37 percent). Accordingly, replacement demand is likely to be high in the next decade (ADE 2015).

4.1.2.6 Role of CRCs

Cooperative Research Centres (CRCs) have and continue to act as a key catalyst in the development of trained scientists in the red meat industry. Gardner (2013), reports that postgraduate researchers deliver a 'considerable proportion of the Sheep CRC's entire research output'.

Stephens et al (2013) reported that two Sheep CRCs and three Beef CRCs supported around 150 students/graduates. The benefits of the Beef and Sheep CRC postgraduate programs were examined through the tracking of past CRC graduates in 2009, 2011 and 2013. It demonstrated that 70 percent of postgraduates had found employment directly within the sheep and cattle industries, and that 90 percent had been retained within agriculture. The bulk of these graduates have been employed directly within senior research scientist or academic positions, emphasising the demand for highly trained research scientists within the sheep industry (Gardner, 2014).

4.1.2.7 Natural Resource Management and Red Meat RD&A

The development of the national natural resource management (NRM) framework has created an alternative career path for graduates of agricultural degrees as well as opportunities for graduates from other disciplines such as environmental science to be involved in red meat RD&A. Many of the 56 NRM groups across Australia employ field officers who are responsible for applied research and extension projects which include red meat producers.

These roles typically cover the areas of weed management and grazing land management. Although these field officers are approaching these issues from an environmental conservation perspective, these activities are still contributing to the development and extension of new ideas, which improve the productivity and sustainability of the red meat sector.

4.1.2.8 Role of Government departments and funding in agriculture RD&A

In the past, state agriculture departments have employed a significant proportion of graduates as scientists and extension officers and provided them with training and support with a clearly defined path for career progression.

Over the last 20 years state agencies have been reducing their investment and involvement in agriculture R&D and extension resulting in a real dollar term decline in state government R&D investment across Australian from near \$230 million in 1995 to around \$120 million in 2012 (see Figure 2 below) (Academy of Science, 2017).

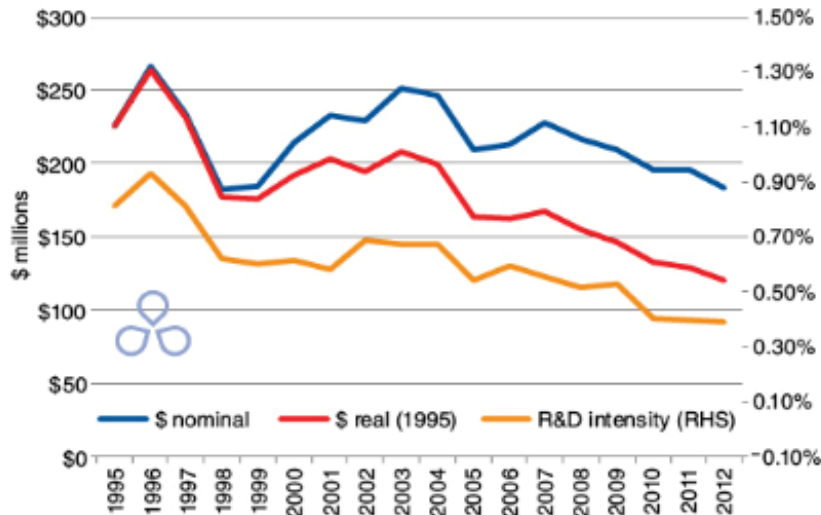


Figure 2 Investment in R&D by state agencies 1995–2012 in actual and real dollars, together with the research intensity being the ratio of public investment in R&D to agricultural GDP (Keogh 2013).

A reduction in state government extension follows a similar picture, with a real dollar term decline in state government extension investment across Australian from around \$150 million in 1995 to below \$60 million in 2012 (see Figure 3 below).

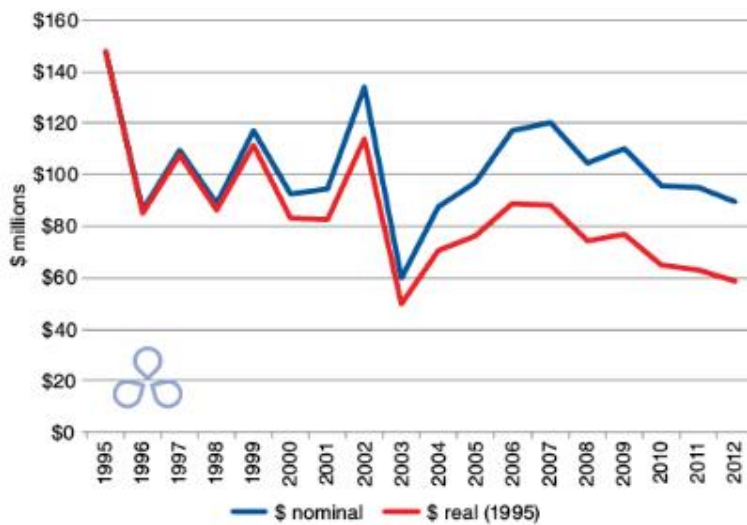


Figure 3 State Government agriculture extension investment (Keogh 2013)

4.1.2.9 RD&E Capacity in beef and sheepmeat production

National RD&E Strategies for beef production, sheepmeat production and animal welfare RD&E were developed in 2009 under the Primary Industries Ministerial Council (Primary Industries Standing Committee – R&D Sub-Committee, 2010a & 2010b). The development of the strategies included an audit into RD&E capacity across the industries.

The snapshot of capability prepared for the Beef Production Strategy indicated that a total of 459 Full Time Equivalents (FTEs) were engaged in beef production RD&E across the government agencies, CSIRO and universities in 2009. Figure 4, indicates that the bulk of this capacity was in the field of animal production, and extension (other) is the second- most prevalent. Across all the research provider agencies, there were approximately 162 FTEs classified as research staff, 101 in technical roles, and 111 classified as working in extension.

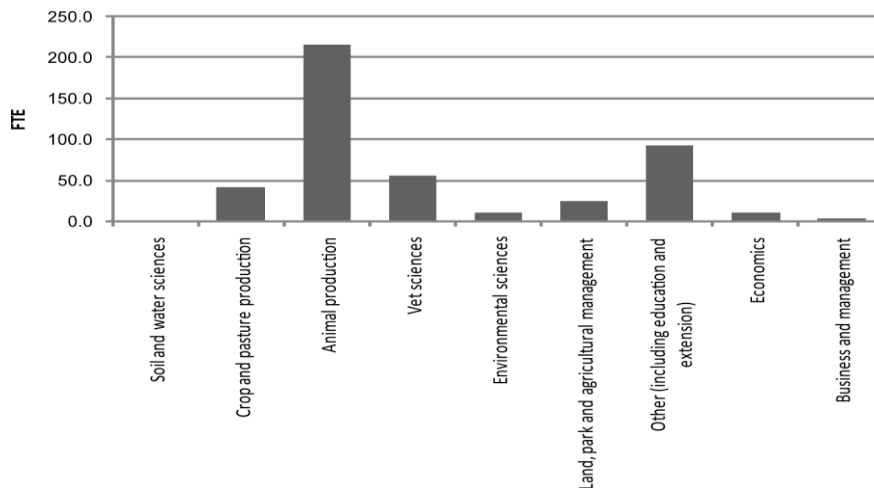


Figure 4 FTE staff in beef production research, development, and extension by Australian Standard Research Classification series (2009), (Primary Industries Standing Committee – R&D Sub-Committee 2010a).

The snapshot of capability prepared for the Sheepmeat Production Strategy indicates that a total of 276 FTEs were engaged in sheepmeat production RD&E across the government agencies, CSIRO and universities in 2009. Figure 5 highlights that the bulk of this capacity was also in the field of animal production, with other substantial capacity existing in the fields of veterinary science, extension (other), and crop and pasture science. Within the organisations, there is also substantial capacity within other scientific disciplines (eg soil and water, biometrics, economics, and business). Across all research provider agencies, there were approximately 104 FTEs classified as research staff, 68 in technical roles and 48 classified as working in extension.

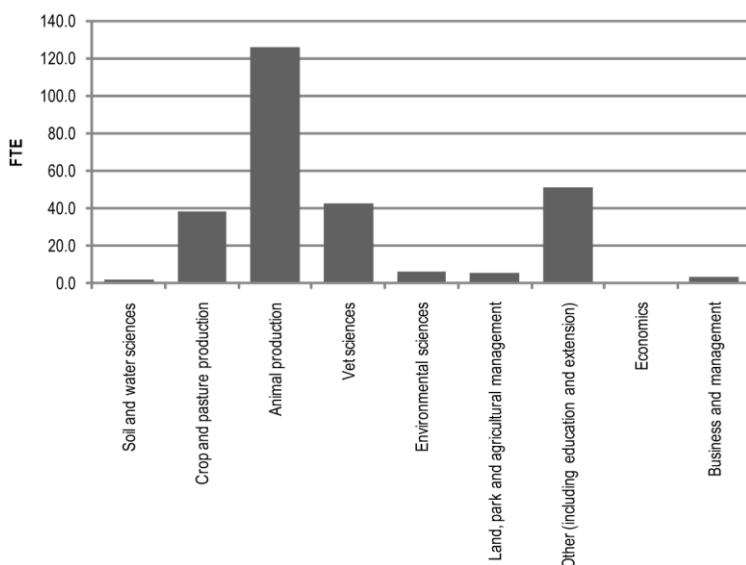


Figure 5 FTE staff in sheepmeat production research, development and extension by Australian Standard Research Classification series (2009) (Primary Industries Standing Committee – R&D Sub-Committee 2010b).

Meanwhile, the National Animal Welfare RD&E Strategy capacity audit listed 37 scientists with some direct involvement in animal welfare R&D and 33 support staff.

Since the National RD&E strategy audits were conducted in 2009, there have been further changes to the resources allocated to agricultural RD&E, particularly at the state government level. The audits also did not account for private research and advisory providers who have increased in number in recent years.

4.1.3 Stocktake of industry capacity building programs

4.1.3.1 Defining professional development

Professional development and capability building terms are used interchangeably throughout the following sections. The business dictionary defines professional development as:

“Process of improving and increasing capabilities of staff through access to education and training opportunities in the workplace, through outside organization, or through watching others perform the job. Professional development helps build and maintain morale of staff members, and is thought to attract higher quality staff to an organization.”

While the definition for capability building is:

“The planned development of (or increase in) knowledge, output rate, management, skills, and other capabilities of an organization through acquisition, incentives, technology, and/or training.”

For the purposes of the desk-top review we have included the following categories of professional development, which are relevant to red meat RD&A professionals:

- Leadership/personal development
- Professional/business/corporate skills
- Technical skills
- Extension/adoption/ stakeholder engagement skills

4.1.4 Red meat industry leadership/development programs

Within the Australian red meat industry there are a number of programs, which provide opportunities for leadership, personal and professional development, and technical training. The target audience for these programs varies from being specifically for livestock producers and industry leaders; to a mix of producers and livestock industry service providers; livestock advisors; researchers or for students. A number of the programs also include an age range, usually where they are targeted at young people or early career development.

4.1.4.1 MLA building leadership capability

In the current ‘Building leadership capability’ priority, MLA is working with the peak industry councils and other value chain participants to build the industry’s capability and invest in industry people through a range of professional development, graduate training, mentoring and scholarship opportunities.

As well as developing the skills base of the current generation, MLA will develop emerging leaders for succession planning and strategic contributions to industry and the community into the future.

4.1.4.2 MLA scholarship program

The MLA scholarship program supports students undertaking postgraduate studies (mostly PhDs) for the three years of their candidature. Students receive a stipend higher than Australian Postgraduate Award (now called Research Training Program (RTP)) stipends, plus support for project costs.

MLA also supports a number of PhD students studying in programs partly or largely funded by MLA, as well as post-doctoral fellows primarily via the two agriculture related CRCs still running including the Sheep CRC and the Invasive Animal CRC.

Past reviews of MLA scholarship programs include Stephens et al. (2013), who reported that MLA had supported 32 PhDs and 23 post-doctoral fellows from 2000 to 2013, plus around 145 PhDs supported through investments in the Beef and Sheep CRCs. The report recommended that MLA increase the level of support of post graduate students with attractive stipends to a level which is competitive with other career options such as a professional position. The low level of stipends has been a barrier for domestic students to undertake postgraduate studies, and especially for those already in the workforce.

Stephens et al (2013) reported that universities would welcome a much greater engagement with MLA in promotion of its scholarship opportunities and to engage more effectively with the redmeat industry. The report also emphasised that 'MLA has the opportunity to engage, nurture and develop these students' and fostering a closer relationship with them would enhance the commitment that the students have to the greater redmeat industry.

Entwistle (2002a) reviewed the red meat industry scholarships program from 1975 to 2000 and found that 187 scholarships were awarded. Of the recipients traced in 2002, 67 percent continued to be involved in the redmeat industry and 12 percent were still working in Australian agriculture, which was viewed as a very high retention rate. The report recommended that the scholarship program continue; that it be broadened to include Honours program support; and that students receive more stipend support and technical assistance to make the MLA program competitive.

An additional report by Entwistle (2002b), involved an 'Intellectual Capital Audit for the Red Meat Industry' and made a series of recommendations including that MLA should award 12 post-graduate scholarships per annum.

4.1.4.3 Building capacity in the grassfed beef industry

Cattle Council of Australia (CCA) with funding from MLA, will deliver the 'Building capacity in the grassfed beef industry' project, which involves a range of professional development initiatives for both current and aspiring beef industry leaders, CCA directors and CCA committee members.

The professional development initiatives of this project include governance and company director training, communication, media and advocacy training as well as training a beef specific graduate in strategic policy development.

4.1.4.4 CCA Rising Champions Initiative

CCA's Rising Champions Initiative (RCI) is primarily designed to give young people greater exposure to the red meat industry, in particular to policy development and industry organisations while identifying future industry leaders. The RCI program provides professional development, networking between the candidates and with industry leaders

The RCI has been running since 2010 and has included mostly beef producers; however there have been some candidates who are service providers to industry.

4.1.4.5 Graeme Acton Beef Australia Beef Connections

The Graeme Acton Beef Australia Beef Connections program was created to provide a leadership, mentoring and professional development program specifically for young people in the beef industry. The inaugural program in 2015 attracted over 50 applicants and the final nine participants chosen for the program included three people whose primary role is in adoption/education, but no one from a research or development background. For the 2018 program seven participants have been chosen, primarily producers and students.

A review of the initial project identified the following critical success factors:

- Getting the right 'fit' between mentors and participants
- Ongoing support and structure from the coordinator – important to ensure both mentors and participants are meeting their commitments
- A personal project for each participant to ensure that their outcomes are targeted to their needs.

4.1.4.6 Building leadership capability for the sheep industry

The Sheepmeat Council of Australia (SCA), with funding from MLA, has recently implemented the 'Building leadership capability for the sheep industry' project.

The three-year project aims to ensure that the Australian sheep industry attracts, develops and retains people with the right leadership skills to contribute to the long-term viability of the industry.

This project involves a number of activities including:

- The Sheepmeat Industry Leadership Program, which is for sheepmeat producers and people working in the industry. The Australian Rural Leadership Foundation (ARLF) will deliver the program to 15 participants per year.
- The Sheepmeat Industry Governance Scholarship - five sheepmeat producers per year for the next three years will have the opportunity to receive specialist training in corporate governance from the Australian Institute of Company Directors.
- The Sheepmeat Industry Ambassador - two young producers, aged between 22 and 40, will represent the industry as ambassadors, working with the SCA to boost the profile of young people in the industry. The 2016 award involved a study tour through Australia and New Zealand as part of the Tri-Lamb Group delegation and attendance at LambEx.

4.1.4.7 Australian Intercollegiate Meat Judging Association Incorporated

The Australian Intercollegiate Meat Judging Association (ICMJ) Inc. is a not-for-profit association. The objective of the ICMJ program is to educate students about the industry, meat science, and the importance of the consumer as well as advocating exciting career opportunities that exist within the industry.

The ICMJ program involves secondary and tertiary meat judging competitions. The tertiary program involves an annual weeklong program of industry conference, workshops, professional development, a career expo and the competition. Following the competition twenty students are selected for further professional and industry development and five students are selected to tour the USA.

The annual ICMJ tertiary program attracts over 130 students and 35 coaches from over ten Australian tertiary institutions and at least four international universities each year. ICMJ is primarily funded via sponsorship from MLA and AMPC with the annual conference also sponsored and supported by a number of industry organisations and businesses.

The ICMJ program is undergoing an economic analysis to determine the impact of the program. This will include a focus on attracting students to careers in the red meat industry.

4.1.4.8 The Future Livestock Consulting Internship program

The Future Livestock Consulting Internship program is aimed at young graduates wanting to develop a career as a livestock consultant. The internship is a two-year program, involving placements with established consulting businesses across Australia, undertaking studies and participating in various

activities throughout the program. It was established in 2015 and is a partnership between the participating consulting firms and MLA Donor Company.

The program is designed to equip new livestock consultants with the skills, experience and knowledge to provide livestock production advice to producers in a supported environment. It will also provide participants with a valuable support network, with two years of mentoring, coaching and personal development and they will gain an accredited Graduate Certificate in Agricultural Consulting.

Nine interns graduated from the program in June 2017 and another round of interns commenced in May 2017.

4.1.4.9 Beef and sheep industry veterinary residency program

The beef and sheep industry veterinary residency program is run by the Mackinnon Project at the University of Melbourne and builds on the successes of the dairy veterinarian program co-funded by Dairy Australia and the Gardiner Foundation. It is training three veterinary advisors to specialise in the red meat industry. Graduates spend three years within the Mackinnon Project and learn how to operate a farm consultancy business and be able to advise across the whole farm enterprise. They graduate with a Masters degree at the conclusion.

4.1.4.10 Young Food Innovators program

Young Food Innovators program is a twelve-month intensive, accelerated development program for young people working in the producer sector. It is supported by funding from the MLA Donor Company and the Australian Government Department of Agriculture as part of its Rural R&D for Profit Program.

The program is focused on people currently working within the production sector including farming enterprises or feedlots (or a business closely related to the production sector) with a minimum of five years' experience, and preferably hold a university degree or relevant qualification.

The program is designed for young producers looking to develop new high value opportunities in domestic or export markets, implement innovative new business models or accelerate the adoption of new disruptive technologies within their production business.

4.1.4.11 'A Leg Up' mentoring program

'A Leg Up' is a pilot mentoring program being delivered by Meridian Agriculture. The pilot will provide workforce mentor support for current and/or aspiring red meat RD&A professionals by pairing them with an experienced industry professional.

The pilot aims to engage a minimum of 20 new industry entrants (mentees) and partner them with 20 established industry participants (mentors) for 12 months to facilitate knowledge transfer and skill development through a group workshop carried out at the beginning of the program, on-going contact through the 12 month period, and to reach agreed expectations of the program over the 12 months.

4.1.4.12 Elite Meat program

The Elite Meat Undergraduate Scholarship program is an initiative between the processing sector and seven collaborating universities and is funded by the Australian Meat Processor Corporation (AMPC). It is designed to attract, nurture, educate, encourage and retain 14 undergraduate students

into the Australian meat industry annually. The program will include industry placements with a meat industry partner, as well as industry relevant training programs.

In the second year of the scholarship, the recipients will conduct a research project for their Honours degree incorporated into eight further weeks of work experience with the same industry partner. The student will present the findings of their research project in a short presentation at the AMPC annual conference along with other scholarship holders.

Following graduation, it is proposed that each student will be employed by their industry partner in a 12 month graduate program which will entail hands-on, applied and practical modules across desired sectors of the industry partners business.

4.1.4.13 Sheep CRC postgraduate training program

The Sheep CRC runs a successful postgraduate training program comprising of an annual event involving a professional development workshop and a postgraduate student conference run jointly with postgraduate students from MLA, AMPC, the Pork CRC, Australian Pork Limited and in the past, the Beef CRC (Gardner, 2014).

At the conference, the postgraduate students present a component of their work as a conference abstract and deliver their work in a formal conference setting, aimed at improving students analysis and write-up of data, and their writing and presentation skills.

Professional development workshops have covered topics such as scientific writing skills, delivering to an industry audience, adoption and people management skills. A key outcome of the training program is the facilitation of a national student network as well as relationship building between students and senior research scientists, who are potential employers.

The Sheep CRC has also supported the attendance of postgraduates at key industry conferences where students are encouraged to present at such events, enhancing their connection to industry and developing their skill at presenting to an industry audience (Gardner, 2014).

4.1.4.14 Invasive Animals CRC postgraduate program

The education program of the Invasive Animals Cooperative Research Centre (IA CRC) ran the Balanced Scientist Program (BSP) for postgraduate students from 2005 to 2012 and the Balanced Researcher Program from 2012-2017.

These programs prepare graduates for leadership roles in industry by providing postgraduate education opportunities outside of those traditionally available in universities. The aim is to produce industry ready and balanced graduates, who in addition to their specialised PhD research experience, also emerge with broad skills in areas such as research leadership and management, stakeholder and community engagement, project management, innovation and development, effective communication and media awareness.

A key element of the program is the placement of students within industry (this includes government and non-government organisations). The program is designed to assist students to better prepare for the industry workplace, develop networks before graduation, improve employment prospects and match research efforts with industry priorities.

Another component of the program is providing training for students in leadership, management, business and entrepreneurial skills. Over a three-four year PhD program, students undertake 80 days of training outside the immediate area of their PhD topic. This includes 40 days of formal training and 40 days of experiential training. To ensure that this additional training does not impact on

student's ability to complete a quality research thesis, the IA CRC funds them for up to an additional six months beyond the maximum 3.5 year term of an Australian Postgraduate Award (APA) stipend. Graduates from this program attain a Certificate in Research Leadership and Management.

The aim of the program is to ensure a "balance" of self awareness, teamwork, skills training and community sensitivity (see Figure 6 below).

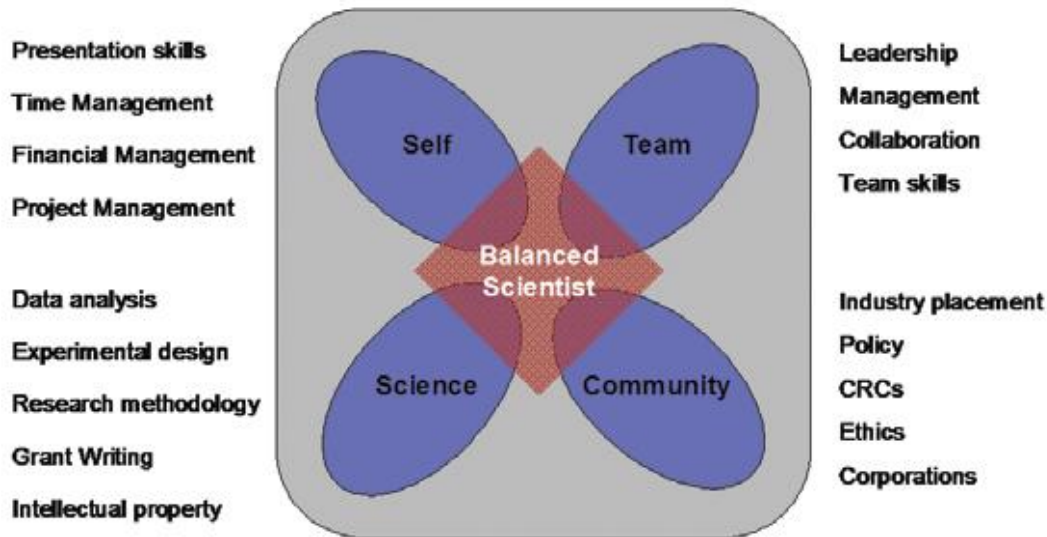


Figure 6 Balanced scientist model (Dimond & Sarre 2011).

It is recognised that the BSP does require a substantial investment on the part of the institutions involved, with an active commitment in terms of time, money and people. The IA CRC has developed 'Guidelines for the Balanced Scientist Program' to provide a template for other postgraduate training programs. These guidelines are currently under review.

The IA CRC has reported exceptionally high completion rates (i.e. 29 out of 30 PhD completions) and a high retention rate (80%) of graduates remaining in the research field.

4.1.5 Across industry leadership/development programs

4.1.5.1 Horizon Scholarship

The Horizon Scholarship is an initiative of AgriFutures Australia (previously the Rural Industries Research and Development Corporation, RIRDC) that, in partnership with industry sponsors, supports undergraduates studying agriculture at university by providing a bursary of \$5,000 per year for the duration of their degree. It also provides professional development workshops and mentoring, annual industry work placements that give students first-hand exposure to modern agricultural practices, and opportunities to network and gain knowledge at a range of industry events. Horizon Scholarships are supported by RDCs and industry organisations including MLA.

4.1.5.2 Australian Rural Leadership Foundation

The Australian Rural Leadership Foundation (ARLF) is a not-for-profit organisation that delivers programs to develop leaders for rural, regional and remote Australia. There are a number of programs where scholarships are funded by industry organisations and businesses. These include the Australian Rural Leadership Program, TRAIL: Emerging Leaders Program, Agribusiness Leadership Program and client-specific programs that are adapted to address the

leadership development needs of the organisation, business, sector, region or community such as the sheep industry leadership program.

When participants complete a program with ARLF they become part of the alumni network consisting of over 1000 members, which provides a valuable and broad resource of expertise. The network has access to the ARLF Alumni Portal which is an online directory allowing for communication and connection of the network of members.

4.1.5.3 Science and Innovations Award

The Department of Agriculture and Water Resources runs an annual Science and Innovation Awards for scientists, researchers and innovators (between 18-35) with original projects that will contribute to the ongoing success and sustainability of Australia's agricultural, fisheries and forestry industries.

The award includes a grant of up to \$22,000 to fund a project on an innovative or emerging scientific issue that will benefit Australia's primary industries. The industry Science Award categories are supported by the RDCs and industry organisations. MLA is a supporting partner for one of the awards.

4.1.5.4 Nuffield Farming Scholarships

Nuffield Australia awards scholarships each year to farmers in Australia. The objective is to increase practical farming knowledge and management skills and techniques generally. These scholarships give Australian citizens the opportunity to study farming practices in New Zealand, Europe, Asia and the Americas and those countries best suited to the scholar. They will also promote a closer understanding between farmers in the countries visited.

Upon returning to Australia it is expected that scholars will be able to actively spread the knowledge and understanding they have gained among their fellow farmers and others. Nuffield Scholarships are supported by RDCs and industry organisations including MLA.

4.1.5.5 Platinum Primary Producer

The Platinum Primary Producer (PPP) Zanda McDonald Award aims to recognise young people working in the primary industry sectors in New Zealand and Australia. There is an annual award, which includes a professional development package, prize money and a mentoring program.

4.1.5.6 Marcus Oldham Rural Leadership Program

The Marcus Oldham Rural Leadership Program is a structured professional development and leadership program run annually. It focuses on communication, public speaking, negotiation and self-awareness skills.

In 2017, the Australian Beef Industry Foundation (ABIF) together with Fairfax Rural Media offered the opportunity for two people involved in the beef supply chain, aged between 21 and 40 to attend the leadership program.

4.1.5.7 Woolworths Agricultural Business Scholarship

In the past, Woolworths ran an annual Woolworths Agricultural Business Scholarship, which was open to anyone working or studying in the agricultural industry. The 12-day program included training in business strategy and planning, successful business leadership, business finance, logistics and supply chain management, the role of government, and sustainability and environmental issues. This program was run in partnership with the University of Western Sydney, which gave credibility to the quality of teaching and provided access to academic experts.

4.1.5.8 Peter Westblade Scholarship

The aim of the Peter Westblade Scholarship is to provide practical hands on education and mentoring opportunities for young people (18-30 years) wanting a career in the Australian sheep and wool industry. The Peter Westblade Scholarship provides:

- Mentoring from industry innovators and leaders
- Opportunities to be involved in the sheep and wool industries largest commercial genetic trial
- Opportunities to be involved with Sheep CRC activities and initiatives
- Practical training appropriate to the skill set required in the sheep and wool industry
- An opportunity to develop wider networks of key contact in the sheep and wool industry

4.1.5.9 Graduate Programs

There are a number of agencies that continue to run successful graduate programs such as the Victorian Government Science Graduate program. The program provides a mix of field and policy work plus exposure to research and community engagement as part of a two year training and development program at two or more locations across Victoria.

An example of a private company graduate program is the Peracto Graduate Development Program, which delivers ongoing professional development and long-term career opportunities for graduates of agricultural science and related courses and those with a keen interest in agricultural contract research. The 12-month Graduate Development Program equips participants with formal scientific and business training as well as on-the-job experience and mentoring from an experienced and dedicated team of field scientists and business managers.

4.1.5.10 Stimulating Private Sector Extension Project

‘Stimulating private sector extension in Australian agriculture to increase returns from R&D’ is a current three-year project to research, develop and test models to build the capacity of the commercial and private sector in delivering R&D extension services to Australian producers.

The project is led by Dairy Australia and is a collaboration involving nine partner organisations including MLA. The project is funded by the partners and the Australian Government Department of Agriculture and Water Resources as part of the Australian Government’s Rural Research and Development for Profit program.

The project consists of four trials including:

- Processor Trial - Connecting industries, farm advisers and producers with the processing sector as a supply chain response to RD&E
- Precision Ag Trial - Increasing the capacity of farm advisers to engage with digital applications based on industry research, development and extension to benefit producers
- Advisory Pathways Trial (business focus) - Creating career development pathways for new entrants and professionals in the agricultural advisory and extension sector
- Knowledge Trial - Exploring ways to improve access to, and engagement with, the latest research, while identifying needs and opportunities to help translate theory into meaningful practice.

As part of this project, the University of Melbourne has developed a series of online training modules on extension. These are currently being piloted.

4.1.5.11 Other programs

There are a number of other leadership and professional development programs that exist at the state level such as Northern Territory Cattleman's Association, Future NTCA program established in 2014 to foster and develop leadership skills within the Northern Territory beef industry's next generation of leaders.

A number of breed societies also run leadership programs and offer scholarships and bursaries such as Angus Youth.

4.1.6 Institutions, networks and organisations

There are a number of institutions, networks and organisations within the Australian agricultural sphere, which deliver a range of professional and personal development, networking, business skills, technical skills and training. The most relevant ones for RAD professionals are listed below.

4.1.6.1 The Australian Society of Animal Production

The Australia Society of Animal Production (ASAP) is a national organisation of people dedicated to managing, developing, and promoting the advancement of livestock production in Australia. It provides both formal and informal structures and opportunities for producers and professional agriculturalists to meet and network. ASAP hosts a biennial national conference and more regular branch meetings. ASAP has recently formed a partnership with the American Society of Animal Science (ASAS).

4.1.6.2 Australian Veterinary Association

To maintain registration, livestock veterinarians must complete professional development requirements each year. Activities that count towards professional development points include attending the Australian Veterinary Association (AVA) annual conference or the Australian Cattle Vets or Sheep Vets special interest conferences. At a local level state branches of the AVA regularly host information evenings and seminars on research updates, drug trials and new techniques which also contribute towards professional development points.

A number of universities in both Australia and New Zealand also offer advanced courses in veterinary science. A summary of courses relevant to the red meat industry is shown in Appendix II.

4.1.6.3 Australasia-Pacific Extension Network

The Australasia-Pacific Extension Network (APEN) is a professional organisation for people working and interested in extension. The network holds a number of national, regional and local training and events on a regular basis focused on natural resource management, sustainability and the practice of extension in agriculture. APEN also offers a mentoring program for members and information on training courses and events. APEN also holds a biannual conference.

4.1.6.4 Australian Facilitators Network

The Australasian Facilitators Network (AFN) is an informal network of extension and facilitation professionals from Australia, New Zealand, South-East Asia and the Pacific. They also host an annual conference, conduct regular regional networking events and run an online discussion forum.

4.1.6.5 Ag Institute Australia

Ag Institute Australia (AIA) is a member based peak industry body for agricultural and natural resource management professionals. AIA offers regular networking and professional development

events and is proposing to sponsor a national accreditation scheme for professionals in Agricultural and Natural Resource Management Sciences.

The Chartered Agricultural Professionals (CAPs) scheme would be voluntary and would demonstrate professionalism, commitment, education, expertise, and experience to make a difference in a client's business.

The AIA CAP scheme would be primarily aimed at early to mid-career professionals and would facilitate professional development.

The CAP scheme would be similar to schemes offered in the United States and Canada for agriculture and natural resource management, and would be similar to schemes offered by other professions in Australia. For example, the CAP scheme would have elements similar to the recently legislated arrangements for Financial Advisers and would be similar to the scheme offered by Soil Science Australia.

AIA's proposal is to develop a scheme that requires a base degree in Agricultural or Natural Resource Management Science (or equivalent), some years of supervised professional experience, demonstrated capability to meet set standards for technical and professional competency and commitment to on-going professional development (Bishop & Hamilton, 2017).

4.1.6.6 Future Farmers Network

The Future Farmers Network (FFN) is a national body which supports and provides networking opportunities for young people (under 35) working in all parts of agriculture, including red meat RD&A. A key event for FFN is the Young Beef Producers Forum that is held annually in Roma, Queensland and attracts over a 100 students, producers and RD&A professionals. FFN is also involved in networking and leadership capacity building events for the sheepmeat industry such as the Future Flock Forum at the 2016 LambEx event.

FFN regularly provides \$500 travel and training bursaries to members of which approximately 50 percent typically go to members attending red meat industry events.

The new FFN website also has enhanced capacity to provide webinars, live streaming and online discussion services to members which can be utilised by partners to share technical and other industry information.

4.1.6.7 Australian Beef Industry Foundation

The Australian Beef Industry Foundation (ABIF) vision is 'Attracting, educating and retaining young people in all aspects of the beef supply chain to create a smarter, more profitable and sustainable Australian beef industry'. A key objective of ABIF is to fund beef industry training, education, research and practical learning opportunities through national and international scholarships and work experience.

ABIF offer awards and scholarships including Marcus Oldham Leadership Scholarships and the ANZ ABIF Rural Leadership Scholarship to attend the New Zealand Kellogg Rural Leaders program.

4.1.6.8 State based consultant groups

SA Livestock Consultants is a group of independent consultants who provide services to the livestock industry across South Australia and interstate. The group formed in 2010 to improve consulting services to, and build the capacity of the broadacre livestock industry. Currently, the group consists of 13 independent livestock and business consultants, representing 11 businesses.

The SA Livestock Consultants recently delivered a technical forum in SA involving presenters from RDCs to present on latest technical information.

Australian Association of Agricultural Consultants (AAAC) WA Inc. is a professional association that actively promotes agricultural consultants and provides a voice for its members who are from a diverse range of consulting types. The association runs training and professional development courses for its members to ensure that they have the skills to provide a quality service to the agricultural community.

Northwest Livestock Professionals Network is an informal discussion group, which provides a platform for information sharing and networking in north-west NSW.

4.1.6.9 Rural Extension Centre

The Rural Extension Centre (REC) was a joint partnership between the University of Queensland (UQ) and the then QLD Department of Primary Industries and Fisheries. It ran from 1993 to about 2003 and was based out of the Gatton Campus of UQ. The courses run by REC were targeted at professionals working in extension and focussed around topics such as adult learning, group dynamics, models and strategies for change and evaluation.

Reports from past students indicate that it was a very useful institution as it taught knowledge and skills, which were immediately applicable to the students' professional role. Past students also noted that they would have been unlikely to appreciate the relevance of these skills prior to entering the industry.

With the closure of the REC there are only limited formal extension units at either the undergraduate or postgraduate level. There are also a number of courses offered by private training providers on topics such as adult learning, change management, group facilitation and people management.

4.1.7 Other Agriculture Industry capability building initiatives

Capability building initiatives have been reviewed for a number of other agricultural industries including dairy, sugar, grains, cotton, horticulture, seafood and wool.

Appendix III outlines each industry, their respective capability building initiatives and the awards offered.

Industries, with a dedicated people development strategy, provide a number of opportunities to attract, retain and develop people at all levels of their respective industries. While there are initiatives across the industries that are specifically focussed on farm owners, there are also a substantial number of opportunities for:

- Undergraduate and postgraduate students (such as scholarships, internships, travel awards, mentoring and formal networks)
- Industry service provider roles (via leadership programs)
- RD&A professionals (such as leadership programs, research scholarships, travel awards)

The Australian dairy industry has a key priority of 'developing people and building human capacity' at all levels of industry from farmers, service providers and industry leaders. Subsequently, the dairy industry has a range of capability building and leadership initiatives as well as an established alumni program for industry leaders and an emerging dairy scientist program.

The sugar industry has initiatives targeted directly at RD&E professionals including bursaries for RD&E professionals, technicians and industry service providers undertaking professional

development activities, early and mid-career researcher awards and travel awards. Such awards require an industry adoption or information-sharing event upon completion of the award.

4.1.8 International programs

Internationally there are a number of organisations, which aim to improve the quality of extension services, particularly in developing countries. These include the Association for International Agricultural and Extension Education (AIAEE), the Global Forum for Rural Advisory Services and Modernizing Extension and Advisory Services. The AIAEE has also recently created a professional development committee to oversee their efforts to support professional development for their members including regular training webinars in addition to their annual conference.

The International Livestock Congress (ILC) Fellowship program run by the International Stockmen's Education Foundation (ISEF) and the International Beef Alliance Young Leaders Program (YLP) deliver this at the international scale. With the exception of the ILC program, the majority of participants in these programs have been producers or service providers who are involved in the red meat industry (e.g. processors).

In the United States, a different model of RD&A exists with the land grant universities providing research, development, teaching and extension services from a single entity. Many of the staff employed by these universities have multiple responsibilities and higher degree students are also involved in extension services in addition to their own research and teaching responsibilities. This system provides a formal avenue for career progression and professional development along a structured path.

As identified by Stephens et al (2013), post-graduate degrees in the USA also have much greater emphasis on coursework than in Australia with typical courses focussing heavily on data collection, statistics and academic writing. These skills are essential in both pure and applied research but have been identified as lacking in bachelor degree graduates in Australia.

Once qualified, animal science, extension and business professionals in the USA can choose to join one of several professional organisations who each offer continuing education, networking and accreditation. A summary of these organisations and their services is provided in Appendix IV.

There are also several long running agricultural leadership programs in the USA such as the University of Kentucky leadership program and the Colorado Agricultural Leadership Program. Both of these programs are open to anyone working in agriculture or agribusiness and have involved several hundred people over the program lifetimes.

Similar programs also exist in Canada with the Canadian Cattlemen's Association running a young leaders program and also sending delegates to the ILC.

In both Canada and the United Kingdom, there are formal associations for consultants and other agricultural professionals, which offer policy, academic publishing, training and networking opportunities. A summary of these organisations and their services is also provided in Appendix IV.

4.1.9 Stocktake of career promotional material

There is a wide variety of promotional material produced by private companies, industry organisations and government bodies to promote careers in red meat. A review of online promotional material was conducted analysing the results of a search using the keywords "careers in red meat" and "careers in beef industry".

The top results produced by this search were AMPC, the National Meat Industry Training Advisory Council (MINTRAC) and the jobs page on the Beef Central site. Changing the search terms to “careers in sheep industry” led first to the Rural Careers Australia website and the Victorian Department of Agriculture.

As a general impression the material available is focussed on either a specific company or a specific commodity and generally at the lower skilled jobs. There is very little information available on the roles available in research or extension or the higher roles, which university graduates might aspire to. There is also no information on the linkages between different aspects of the red meat industry and how skills learned in one sector could be applied in another.

A list of other websites, which appeared on the first page of the search results including a summary of the information provided, is provided in Appendix V.

4.2 Focus Groups

A total of 21 people attended the NTDPI and YBPF focus groups. The key discussion points from both focus groups are outlined below:

1. *Why did you choose this career? What keeps you this career?*

- Passion
- Need to feel that career and industry are moving forward – challenge with short funding cycles and need to demonstrate change in a short period of time but adoption is a long process
- Many people leave because they go back to the family farm
- Feeling valued – feeding the world
- Flexibility in work
- Mentors (informal)
- Access to skilled mentors and peers is critical – networking is so valuable for professional creativity, problem solving and support.
 - In particular introductions from senior staff to other professionals and producers speed up processes significantly.
- 2/16 didn't grow up in the industry
- Trend for those who grew up in the industry but there isn't an easy opportunity to go back to the family farm, therefore they go into RD&A or service sector

2. *What are the best professional development opportunities you have had?*

- Working on multi-disciplinary, inter-state teams on large projects
- Conferences – best networking opportunities and come back feeling refreshed
- Social media has heaps of scope – need to utilise it more
- What teachers do (i.e. teaching profession accreditation) is too much, but something similar would be good
- Rural Extension Centre and Rangeland Australia were good models, but funding has gone

3. *What are the gaps in the current system?*

- Lack of formal extension courses
- Mental health/self-care, personal resilience are extremely important for anyone working in extension to avoid burnout – hasn't been prioritised enough
- Need to be better able to give/receive constructive feedback and then act on it – structured follow-up

- Mentor relationships need to have clear objectives
- In the 'south' – limited funding for government extension so ends up more sales focussed, potentially leads to less objective technical information
- No clear career path for scientists, when limited graduate jobs available, told over-qualified for entry-level industry jobs
- Nothing after PhD (very limited post-doc positions available)
- Need some other linkages to keep academic skills going
- Practical skills for university students – challenge is where/how to gain these
- 'Business' skills for new grads
 - Budgeting
 - Monitoring and Evaluation
 - Project management
 - People skills
- Better system for promoting scholarships, research opportunities etc.
- Support for (paid) study leave for post-graduate degrees
- Professional development needs to be part of the culture – particularly in private organisations
- Need everyone to identify as being part of the red meat industry (different roles, sectors but all part of the bigger industry – allow everyone to see how they link back to the big goals in the MISP).
- MISP – needs to be more enticing – focus on the common objectives
- Need to include Landcare groups, private companies etc.
- As state government departments reduce in size, university degrees need to change – need to be more focus on business skills

Other key points that were made were that there is an optimism and opportunity in the red meat industry at the moment; the challenge is how to capitalise on this. Also questioned what red meat can learn from other industries.

4. Are there any specific incentives or support that would encourage you to stay in this career?

- More structured knowledge transfer from old to young – in some kind of forum setting – hard to quantify
- Some things can't be learnt from a book
- Need to understand that everyone learns differently
- 'School of hard knocks' shouldn't be underestimated
- More financial support i.e. Marcus Oldham is expensive
- PICSE program is good
- Final year of university needs to have more links to careers – more interaction with employers etc.
- Specific skills:
 - Leadership
 - How to present
 - Negotiate
 - Confidence/selling yourself
- HR managers needs to consider whether application processes are appropriate, up to date and suit the position
- Companies need to support PD
- Need to be better at systems thinking
- To boost confidence need some kind of validation a couple of years into career
- People need to be able to describe themselves as a professional and feel like part of a cohort
- Need to feel valued and respected and sense of accomplishment
- Connections to similar networks internationally

- Especially the opportunity to be in the field
- Better map of career path possibilities
- Needs a commitment from industry to see people progress
- Need better communications training and training in understanding different learning styles
- Formal extension course and time to take up those opportunities
- Interviews with a range of people, how they got there, advice for young grads
- Champions/ambassadors to showcase range of careers in videos on website
 - Live video chat once a month – job central

5. What are the key challenges?

- Hard for school leavers to find out what career paths are available
- No structured ladder of promotion in agriculture
- Translating information from technical to layman's and back again
- Work better across industries on common issues/skills
- Some Ag college teachers don't have practical skills
- Industry don't do a good job of advertising the diversity and changing nature of roles right across the industry
- Extra curricular activities (e.g. meat judging, seeking out scholarships etc.) are critical to making connections, find out about job opportunities and building skills to get interesting jobs
- Volunteering e.g. at ag shows – experience shouldn't be under valued as teaches skills like event management, public speaking etc.
- Review what cotton has done – good job at changing culture and the way that industry is perceived
- What's the ROI on PD?
- Feedback that people are being turned away from Masters/PhD by negative honours experience
- Speak to Indigenous Land Council about opportunities for indigenous inclusion in RD&A.
 - What is needed to encourage Aboriginal students to go into RD&A?

4.3 Pilot panel session

There were a total of 165 students in attendance at the ICMJ panel session. The students were all very actively engaged in the session and asked well thought-out, relevant questions.

The results of the focus groups and surveys indicated that students and early career professionals were seeking very clear and defined paths for career success, but were frustrated by a lack of clear information and logical steps. This theme appeared again in the first questions asked during the panel session however the message, which emerged quite strongly from the panellists, was that there is no clear, defined, single path to a successful career in red meat. In fact the panellists indicated that the most interesting careers happen by staying open to all opportunities, tackling challenges above your comfort level and constantly learning.

From the ICMJ evaluation of the panel session, 97 percent of respondents scored the session five and above out of seven. Additional feedback received included very strong support and interest in the career panel session, however the students wanted it to go for longer and to cut back on the other presentations to get more value from the panel session. A number of comments also supported the use of digital submission of questions.

4.4 Survey

A total of 346 people (198 female and 144 male) responded to the survey including 58 students and 23 people who had previously worked in the red meat industry. As indicated in Figure 7, responses were received from people based in all states and territories of Australia with a higher proportion from regional areas than capital cities.



Figure 7 Survey respondent locations

4.4.1 Student results

Over half the students who responded to the survey were based in regional NSW with a least one student from every other capital city and regional area except Brisbane and Hobart. Animal science and veterinary science are the most popular areas of study at all levels, which for most, was chosen, based on an innate passion for agriculture and animals. These findings reflect those reported by the focus groups.

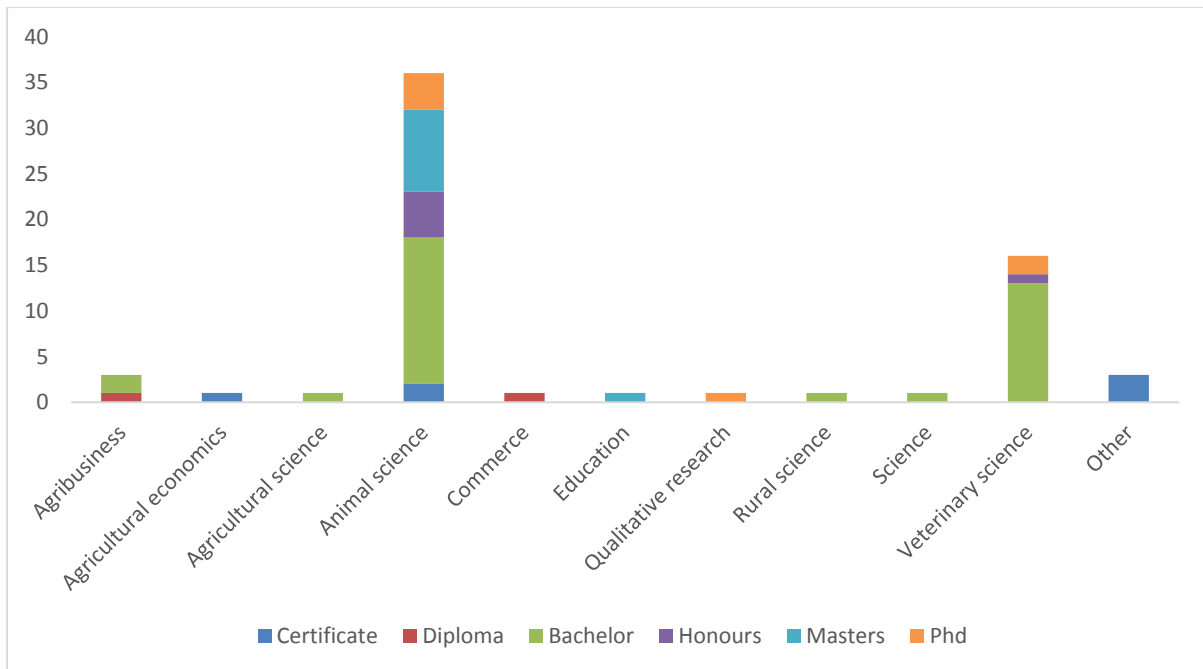


Figure 8 Area and level of study from student responses (n=58)



Figure 9 Key influences on choice of study area from student responses

The high proportion of animal/veterinary science reported by the survey respondents is possibly a result of sample bias based on the available databases to which surveys were sent. However, the six future industry challenges identified by the Stephens et al (2013) (Animal welfare, Human capacity, Land use and management, Enterprise profitability and competitiveness, Market demands and competition and Consumer perceptions and sensitivity), are unlikely to be adequately addressed by pure animal/veterinary sciences.

The lack of responses from agricultural economics, environmental science/natural resource management and marketing students suggests that more attention may be required to encouraging students from an agricultural background to pursue these areas of study or attracting students from these disciplines into red meat careers.

Further results from the students section of the survey are presented below. Key results are linked to potential activities or functions of the RAD Meat program alongside other changes which industry may consider to further attract, support and retain RD&A professionals.

Table 2 Key survey findings - students

Key Findings	Potential opportunities in RAD Meat	Other recommendations for industry
Passion and family background are key influences on choice of agriculture/ animal science as a study area	<ul style="list-style-type: none"> - Capture passion through support and networking - Financial gain is not the primary motivator rather opportunities to travel and engage with a wide variety of people who share these same passions are more likely to be attractive and encourage students to pursue careers in red meat - Ensure diversity of careers in RD&A (not just science based) are promoted and encouraged - Promote benefits of red meat careers to students in economics/business/marketing/ environmental science 	<ul style="list-style-type: none"> - Promote benefits of RAD Meat roles above and beyond salary
Primary career choice motivators (in order): <ol style="list-style-type: none"> 1. Support for further study 2. Regional location 3. Mentor 4. Salary 	<ul style="list-style-type: none"> - Travel and networking grants - Mentoring programs 	<ul style="list-style-type: none"> - Support flexible work arrangements including the opportunity to work from a regional location or to work from home - Ensure salaries are competitive and linked to performance
51% plan to undertake further study 10 planning to undertake a PhD A positive experience during honours is required for students to consider post-graduate study	<ul style="list-style-type: none"> - Bursaries available for travel and operating expenses for research students (including honours) - Professional development and support for supervisors (including at honours level) 	<ul style="list-style-type: none"> - Increased flexibility including part-time PhDs

4.4.2 Supply of RD&A professionals

265 RD&A professionals across 76 professions and industry sub-sectors responded to the survey. The largest proportion were extension officers (n= 54) followed by scientists (n= 49) and then consultants (n= 43). Of these professionals 75 percent expect to remain in their current role for less than 5 years. Of these, almost 50 percent expect to remain in the red meat industry but with a different organisation or in a different role.

Analysing the current number of professionals in different sectors, the number planning to leave the industry within five years and the number of students planning to enter those sectors provides some information on potential gaps in particular skill and interest sets. These gaps may be filled by other professionals changing roles or people entering from other industries. For clarity of presentation the range of roles listed by respondents has been consolidated to reduce duplications then split into three broad categories; RD&A direct professionals, red meat industry support providers and red meat industry supply chain professionals. The results are shown in the three figures below.

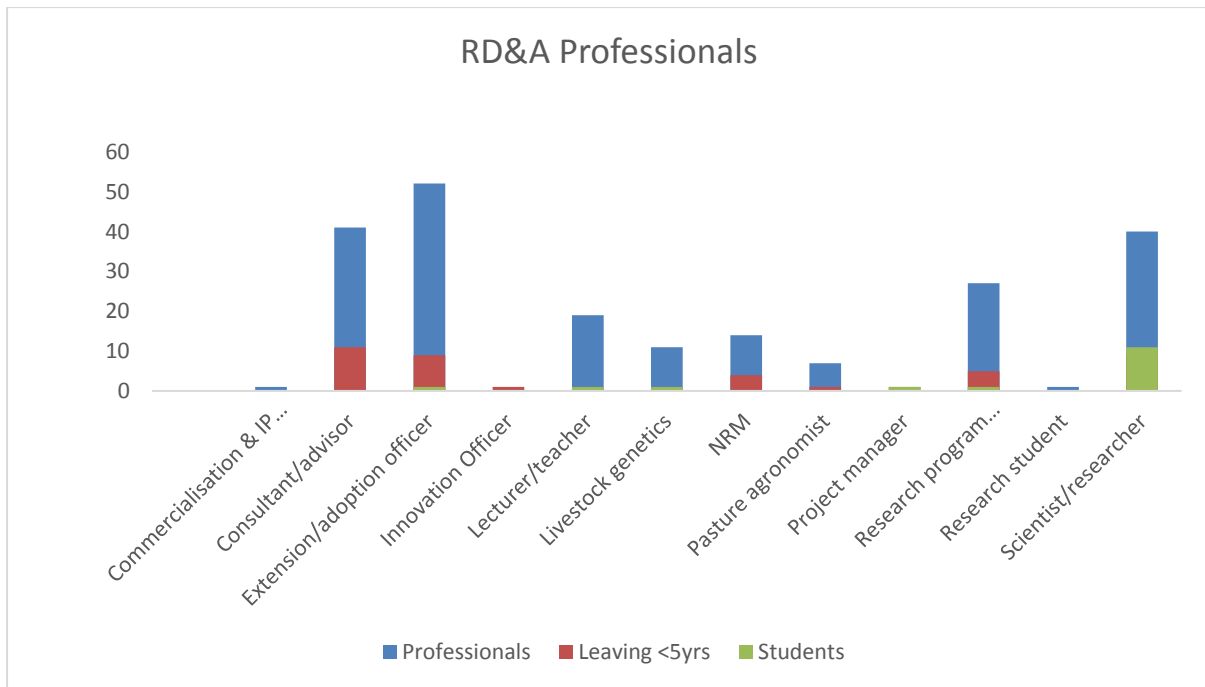


Figure 10 Supply and potential gaps of RD&A direct professionals

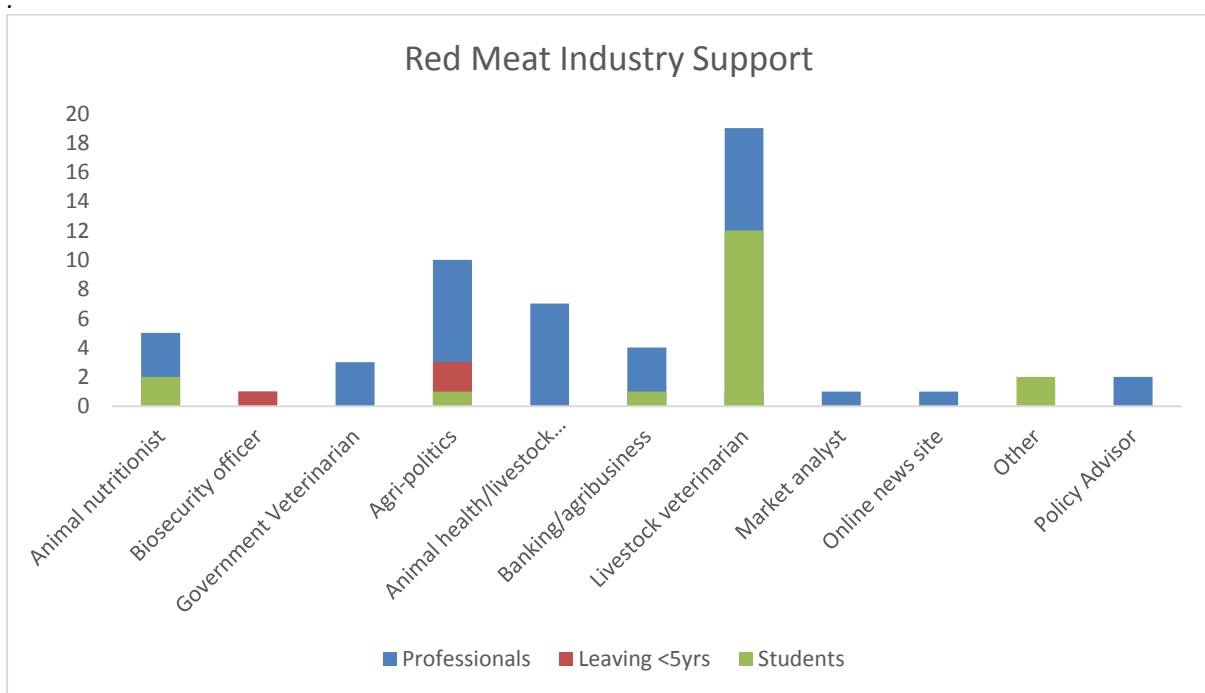


Figure 11 Supply and potential gaps of red meat industry support professionals

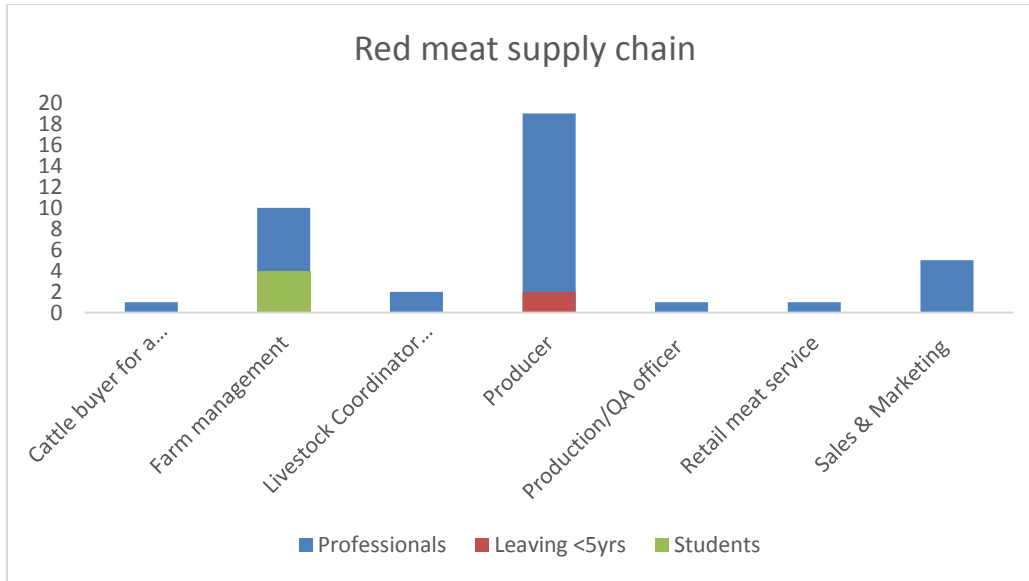


Figure 12 Supply and potential gaps of professionals in the red meat supply chain

From these results, some key findings and recommendations for industry change can be made.

Table 3 Key survey findings - professionals

Key Findings	Potential opportunities in RAD Meat	Other recommendations for industry
Plenty of students interested in becoming scientists and vets, but fewer indicated they are interested in more specific careers such as pasture agronomy or genetics.	- Better promotion of full range of careers available in red meat	- Ensure early career professionals have access to training and professional development to enable them to transition from ‘technical’ roles to managerial roles
Potential gap in extension officers/consultants	- Continue to support programs such as Future Livestock Consultants - Promote available extension and adoption training courses - Educational institutions and industry to work more closely to ensure students graduate with extension skills	- Clarify role of state governments in extension and provide long term, consistency to policy and structure in this area
Biosecurity researchers and extension/enforcement officers could be a future gap	- Promote how red meat science skills can be applied to biosecurity issues - both research and extension/enforcement - Promote advantages of careers in biosecurity e.g. wide range of issues, travel opportunities, policy, science & extension roles, importance of biosecurity to industry, coordination with other commodities	- Biosecurity RD&A becoming higher priority with greater funding, extension/enforcement role also becoming much broader role than just livestock inspections – additional training and support required

4.4.3 Graduate programs

Of the professionals who responded to the survey, only 24 had completed a graduate program after finishing university and of these only eight considered that the program was a key factor, which attracted to them to the role. The responses also suggest that there is a gap between the level of technical proficiency achieved by graduates and the expectations of industry employers.

Table 4 Key survey findings - graduate programs

Key Findings	Potential opportunities in RAD Meat	Other recommendations for industry
<ul style="list-style-type: none"> - Technical training is an essential component, particularly when very new in a job - Professional skills e.g. leadership and public speaking training more useful a couple of years after graduation 	<ul style="list-style-type: none"> - Coordination of variety of technical and professional skills training on a fee for service basis 	<ul style="list-style-type: none"> - Educational institutions and industry to work more closely to ensure students graduate with industry-relevant skills
<ul style="list-style-type: none"> Job rotations viewed favourably 	<ul style="list-style-type: none"> - Alumni program for graduates to continue professional development, networking and as further support for new graduates 	<ul style="list-style-type: none"> - Ensure that graduate program coordinator role is clearly defined and graduate program activities are clearly linked to broader organisation objectives

Two very positive comments were received on the value of the Victorian Department of Agriculture graduate program:

“Having several rotations gave you a breadth of experience and knowledge to the role government plays in agriculture, as well as diversity of industries and regions within state. Also fantastic opportunity to work with a range of industry professionals and create networks.”

“It was a fantastic start into the redmeat industry and I gained lifelong skills from the program that I have built on over the years.”

4.4.4 Professional development – key topics and skills

The most important skills and knowledge for career advancement and effective RD&A were identified by professionals for themselves, their team(s) and by producers. The most relevant topics for each group are shown in the table below, which also identifies where there is overlap between the groups.

Table 5 Most important topics for further education and professional development

	Skills that professionals want to improve for themselves	Topics professionals would like in a PD program	Skills that team members need to improve	Skills that producers think RD&A professionals need to improve
Budgeting, project management				
Commercial focus				
Communications				
Corporate governance				
Economics				
Leadership				
Media training				
Monitoring and evaluation				
People management				
Professional writing				
Public relations				
Public speaking				
Public writing eg newsletter articles, social media				
Stakeholder engagement				
Strategic focus				
Technical skills				

In terms of delivery and structure the following features were identified from the survey:

- There was a preference for face to face training in small groups for PD delivery
- Both online interactive and online passive are valuable, but consideration needs to be given to high-speed internet access in regional areas
- Respondents were prepared to invest 3+ days per year and \$1,000+ per year

The ADE 2015 report for agricultural scientists and consultants also reported that written and verbal communication skills (including expertise in writing scientific reports, communicating with clients or stakeholders and demonstrating field trials) were highly regarded by surveyed employers.

4.4.5 Barriers to attraction and retention

While remuneration was clearly identified by survey respondents in all categories as being important, it was only one factor, which influenced the decision to remain in the red meat industry. Figure 13 gives a summary of the key factors, which respondents identified as important for them to stay the red meat industry.



Figure 13 Incentives and support to remain in red meat RD&A

The key professional challenges identified by those working in red meat RD&A and potential opportunities for both RAD Meat and the broader industry are shown in Table 6.

Table 6 Professional challenges and opportunities

Key Findings	Potential opportunities in RAD Meat	Other recommendations for industry
Lack of program funding and consistency to conduct research and extension	<ul style="list-style-type: none"> - Skills and/or funding matching service to assist professionals whose current role/project is ending to identify alternative roles/funding opportunities - Include topics such as proposal writing and grant applications in the PD training topics - Develop a skills audit template for RD&A professionals to add to RAD Meat resources 	<ul style="list-style-type: none"> - Ensure outcomes from programs are linked to the next funding cycle - Focus on people not just projects as identified by Stephens et al (2013)
Fewer permanent positions available.	<ul style="list-style-type: none"> - For some professions, this is the nature of the roles. Ensure that this is included in the career profiling information 	<ul style="list-style-type: none"> - Supporting professional development which creates agile professionals whose skills work across disciplines (this also applies to Phd students)

Table 6 continued

Remuneration	<ul style="list-style-type: none"> - Provide awards which recognise and reward outstanding efforts in red meat RD&A - Promote the non-monetary benefits of a career in Red Meat RD&A 	- Ensure that remuneration packages are benchmarked against other industries and the structure of remuneration packages is flexible and up to date
Access to broad industry network/mentors	- Networking and mentoring program	
Lack of professional development/Support	- Coordination and support of professional development and training activities	

4.4.6 Connections

Responses from participants in the focus groups indicated that connections and networking with other RAD professionals was critical for professional development and career satisfaction. In the survey, we asked how people rated their connections with RDCs, Researchers, Extension officers and Producers. Across industry sub-sectors connections with Producers were rated the highest – 61% rated as ‘Well connected or ‘Very well connected’ while connections with RDCs were rated the lowest – 14% said no connection at all. State government employees reported generally higher connections with all other sectors of the industry, while processors reported the least amount of connection with all other sectors.

4.4.7 International students

Some respondents to the Stephens et al (2013) review identified that while international graduates may be a source of industry professionals, they are less likely to engage effectively with industry and make a long-term commitment to the industry.

Survey respondents who had been involved in the recruitment of RD&A professionals reported that in their experience, international graduates were generally less qualified or experienced than domestic students across a variety of skills. Respondents provided a wide variety of comments, which essentially found that international graduates may be suitable for science/research type positions (dependent on English skills) but are unlikely to be suitable for extension type roles due to the social skills and strong industry understanding, which is essential.

4.4.8 Ex-RD&A Professionals

One of the groups we were particularly interested to hear from is those professionals who had previously worked in the red meat industry but were no longer. We wanted to investigate what skills they had, why they had left the red meat industry and whether anything could be done to entice them to return. A total of 23 ‘ex-RAD professionals’ answered the survey from all states/territories except the Northern Territory and Tasmania. Prior to leaving the red meat industry these people had held a range of roles as shown in Figure 14.

Many of these professionals were extremely experienced with 8 of the 23 having over 10 years experience and 10 having post-graduate (Masters or PhD) qualifications. Four respondents stated that they had left red meat RD&A because of a lack of professional development opportunities and a further three, because they were offered a position with higher remuneration/benefits elsewhere. Beyond these there was a wide variety of reasons given for leaving the sector including job dissatisfaction, inability to find an appropriate job and returning to study.

Factors which would attract these professionals back to a role in red meat RD&A focussed on better job security, more flexible working conditions and longer funding cycles which allow for ongoing, applied research.

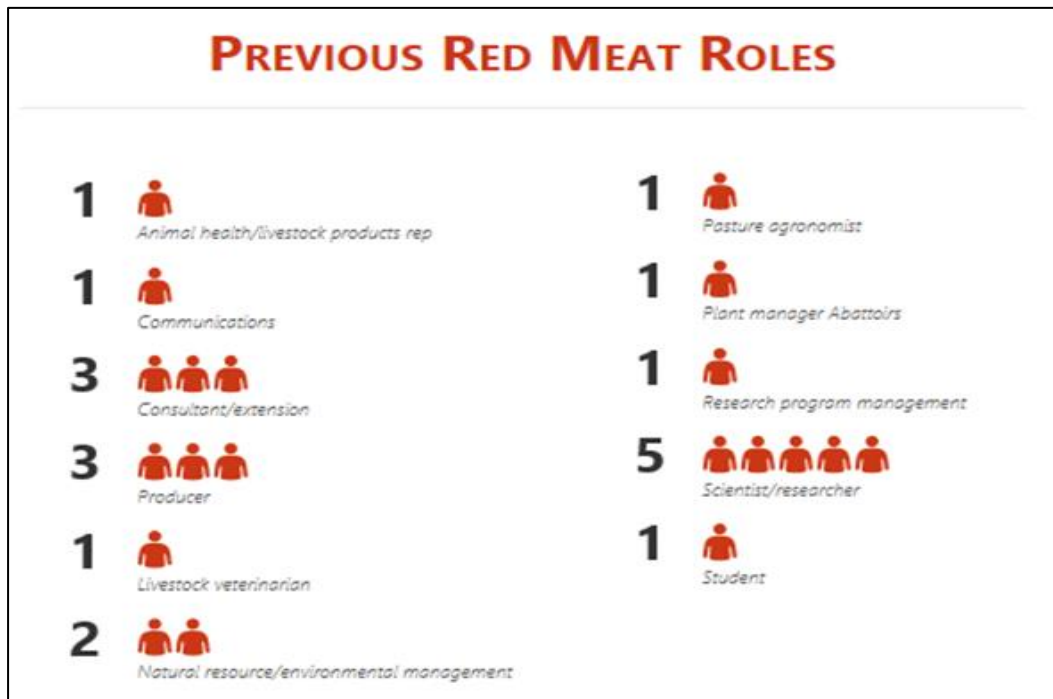


Figure 14 Ex-red meat RD&A professionals

5 Discussion

5.1 Desktop study discussion

The desktop study provides a good insight into the current RD&A career landscape and the range of capacity building programs within the red meat industry, across other agriculture industries and internationally. The review also highlights that while there is a plethora of programs available there is no central point of information or support for professionals to identify which programs may provide the best pathway to their desired career. With the decline in RD&E funding from state agencies with their corresponding career progression paths, navigating this system to a successful career is more challenging than ever for graduates.

The majority of the programs for the red meat industry are specifically targeted for producers or industry leaders in the grassfed beef and the sheepmeat industries. There is also a strong emphasis on programs for young people in the industry from 18-35 years.

There are limited capacity building opportunities for red meat RD&A professionals, particularly with the ongoing trend of reduced public investment in RD&A and careers in the public sector. However, there are a number of professional organisations/bodies such as the ASAP, AIA and APEN that hold

mostly biannual conferences and more regular smaller events, which may offer some professional networking opportunities.

The Australian ICMJ is a key program aimed at attracting secondary and tertiary students to careers in the red meat industry. The tertiary program provides exposure to career pathways, potential industry employers via the career expo, networking and professional development opportunities to over 160 students annually.

A key challenge for the red meat industry is ensuring that the industry can attract students to undertake higher degrees such as Masters and PhDs and to for industry to subsequently retain these researchers in red meat RD&A roles after they receive their qualifications.

To be competitive in attracting students to higher degrees in red meat, it is likely that 'a package' may need to be offered with competitive stipends/scholarships (from honours level and above), as well as professional development, networking, strong links to industry and support i.e. mentoring/coaching for the students. The IA CRC Balanced Researchers Program and to some extent the Sheep CRC program, provide a template that should be considered for future PhDs funded or partly funded by MLA.

In the desktop review of capability building/leadership opportunities in other agricultural industries, the industries which had a clearly defined people strategy for the industry such as the dairy and cotton industries, had programs targeted at the producer/grower level, right through to industry leadership roles, and opportunities identified for RD&A professionals.

The dairy industry has clearly recognised the importance of by addressing skill and capability gaps, investing in education and training opportunities and developing future leaders. As a result the Gardiner Dairy Foundation has a 'People Development Strategy' as one of five Strategic Investment areas. The Foundation 'invests in the people that make up the dairy industry in Victoria, from students to emerging industry leaders both on farm and in the service sector'.

The stocktake of career promotional material also identified that there is a gap in promoting the diversity of career pathways in red meat RD&A.

5.2 Focus group and survey discussion

The results of the focus groups and survey provide more detail on the specific gaps in skills, knowledge and networks which could/should be addressed by a professional development program for RAD professionals.

With regards to attracting students, it is clear that many students are choosing RAD careers based on their family background, an experience or an intrinsic passion for agriculture. As a result, the opportunity for continued learning and engagement with like-minded people is likely to be one of the strongest means for attracting and retaining these students/professionals.

Specific mention was made of the impact that a positive experience during undergraduate/honours study has on the uptake of post-graduate study and careers in RAD Meat. Critical to these experiences is access to high quality supervisors and access to sufficient research funds.

The results of the survey and the RAD Meat Careers Panel session at ICMJ 2017, reinforced feedback from the focus groups in which early career professionals reported that they had found it difficult to identify a clear pathway from graduation through a career in red meat RD&A.

Further, although there were over 30 different roles identified by the responding professionals, students expressed a clear preference for roles in animal science or as livestock veterinarians. While

some roles are not suitable for graduates, attention needs to be paid to providing students with information about the multitude of possible roles available as their careers advance and ensuring that early career professionals are provided the ongoing training and experience needed to undertake these roles.

A key message from the focus group was the importance of encouraging students to be proactive in getting involved in extra-curricular activities such as the ICMJ, FFN, agricultural interest groups, and breed/show societies to establish networks and to be exposed to opportunities. The ICMJ panel members strongly supported the message that often the most interesting careers don't come from following a clearly defined path and this message was enthusiastically received by students.

Based on these results, attention should also be paid to ensuring that students not only have the technical skills to undertake RAD Meat roles but also the confidence to take opportunities and the ability to see how their skills can be applied in alternative roles. Opportunities for students to participate in real work situations are the best way to learn these 'work-place' skills and also provide greater exposure to the range of roles available in RAD Meat.

For professionals there was a clear demand for a consistent, coordinated approach to ongoing technical training and professional skills development. The value of this ongoing learning is reinforced by the willingness of professionals to invest their own time and resources into professional development.

Combining access to professional development and training with more flexible working arrangements including the ability to work from a regional location and opportunities for networking would improve retention of these highly qualified professionals. These elements were clearly seen as more important than simply greater remuneration, however more consistency and reliability of operational funding is critical.

Professionals also want to feel like part of a recognised and respected industry profession and be valued for their efforts in continued skill development. The current optimism in the red meat industry provides an opportunity to give greater support to current RAD professionals and use their experiences to promote the industry. While many other industries have formal accreditation systems this was not seen as a current priority.

While most of the professionals surveyed came from a background in agriculture there will not always be sufficient graduates or professionals with these experiences to fill the available roles. Recruiting international graduates to fill some of these roles was seen as limited due to the need for a high degree of intrinsic industry knowledge and understanding of values, which are difficult to teach. There was also concern that international recruits may not have the same commitment to the Australian industry as local recruits.

Alternatively, recruiting professionals from other sectors provides the opportunity to draw on a broader range of skills and perspectives. The red meat industry has the opportunity to provide roles for these professionals that offer benefits such as a regional location, which may not be available in other sectors.

Anecdotal evidence also suggests that there is a significant pool of highly qualified RAD professionals who have left the industry to move to their own or a partner's farm. Many of these professionals would have the capacity and skills to make a valuable contribution to the industry however flexible and innovative ways of working (and providing professional development opportunities) are required, particularly if located in remote areas.

The learnings from the data collection can be summarised under the following themes:

- The diversity of 'RAD' careers needs to be demonstrated and promoted to students
- Promotion of 'RAD' careers needs to extend beyond animal science students to include students from other disciplines and professionals from other sectors
- Exposure to the 'RAD' working environment during study provides students with invaluable work place skills, contacts and confidence to pursue their own career path
- Better support is needed to encourage a greater uptake of post-graduate study
 - More competitive stipends including operational costs
 - More flexible learning structures such as part-time PhDs
 - Better support for supervisors to improve their skills as supervisors
 - Opportunities for networking and engagement with other post-graduate students and industry
 - A professional development program as part of the PhD package
- The value of networking and collaboration, both formal and informal, cannot be over-emphasised at all stages of career development
- Travel, ongoing learning and the opportunity to work on a variety of interesting projects, including in multi-disciplinary teams is a major incentive for many RAD professionals
- The value of professional development needs to be recognised and rewarded
- Stabilising the funding cycle for research and extension to support linkages between programs and allow professionals to use their skills across different projects over time

These key themes were used to design the RAD Meat Framework, which is discussed in the following section.

6 Conclusions/recommendations

The research clearly identifies that the red meat industry would benefit from having a people development strategy across the industry. As our research was targeted at the RD&A sector, our recommendations are specifically focussed on that sector.

Our key recommendations are:

Recommendation 1: Develop a business plan and implement the RAD Meat Professionals Framework as the people development strategy for red meat RD&A.

It is recommended that MLA provide the coordination role for this strategy.

Details on the aims, content and structure of 'RAD Meat Professionals' is provided section 6.1.

Recommendation 2: Develop a branding strategy for RAD Meat Professionals, which includes a communication and social media strategy to promote the benefits and opportunities in RAD Meat careers.

Recommendation 3: Create a RAD Meat Professionals website which provides a central hub for information sharing and networking.

Recommendation 4: MLA implement minor changes to the annual project call process to embed professional development in research and extension projects:

- a) All future project call priorities related to capacity building should align with the RAD Meat objectives.
- b) Place a greater focus on the 'people development element' of future project call applications (i.e. identify how a project will contribute to recruitment, retention or development of RAD professionals).
- c) Utilise an online platform to provide an opportunity for researchers to discuss current projects, challenges and opportunities for collaboration.

Recommendation 5: The RAD Meat Professionals Framework is reviewed on a regular basis to account for changing skills, capacity gaps, new technologies, innovations and industry priorities.

6.1 RAD Meat Professionals

Recommendation 1: Develop a business plan and implement the RAD Meat Professionals Framework as the people development strategy for red meat RD&A.

6.1.1 RAD Meat Professionals - What is it?

RAD Meat is a 'people development strategy' for red meat industry RD&A professionals.

RAD Meat is presented as a framework of activities that aims to:

- promote and encourage red meat industry RD&A careers;
- create a more collaborative culture;
- support continuing education;
- build skills and capability;
- provide professional development opportunities;
- recognise achievements in red meat RD&A professions; and
- provide a national networking platform for all professionals engaged in red meat RD&A.

6.1.2 Who is RAD Meat Professionals for?

Anyone studying or working in a role which contributes to the improved productivity, profitability, quality, safety or sustainability of the Australian beef, sheepmeat or goat industries as well as those who manage the funding and strategic direction of RD&A.

These positions may fall within private businesses and companies, industry organisations, research development corporations, universities, government departments or non-government organisations.

6.1.3 How is the RAD Meat Professionals Framework structured?

RAD Meat Professionals is designed to act as an umbrella framework to help deliver a coordinated strategy. It is anticipated that it will be overseen by MLA as the RDC for the red meat industry, but should include participation, input and partnership from a range of stakeholders across the RD&A professions including government departments, industry bodies, businesses, universities and research agencies.

The framework is built on four pillars, to ensure relevance for all RD&A professionals from tertiary and post-graduate students to early, mid and late career professionals. While producers are not a primary target of RAD Meat, a fifth supporting pillar which recognises that some of the initiatives proposed by RAD Meat may be relevant to producers has been included. Each of these pillars is described in detail below.

Importantly, the framework will aim to encourage a culture of collaboration and cohesiveness right across the RD&A continuum covering the varying stages and types of career. An effective communication and engagement plan will need to be implemented to achieve this.

It is important to note that many of the suggestions include ongoing support for existing programs and activities. It is not suggested that RAD Meat take over the running of these programs, rather that it provides a platform for improved coordination and promotion.

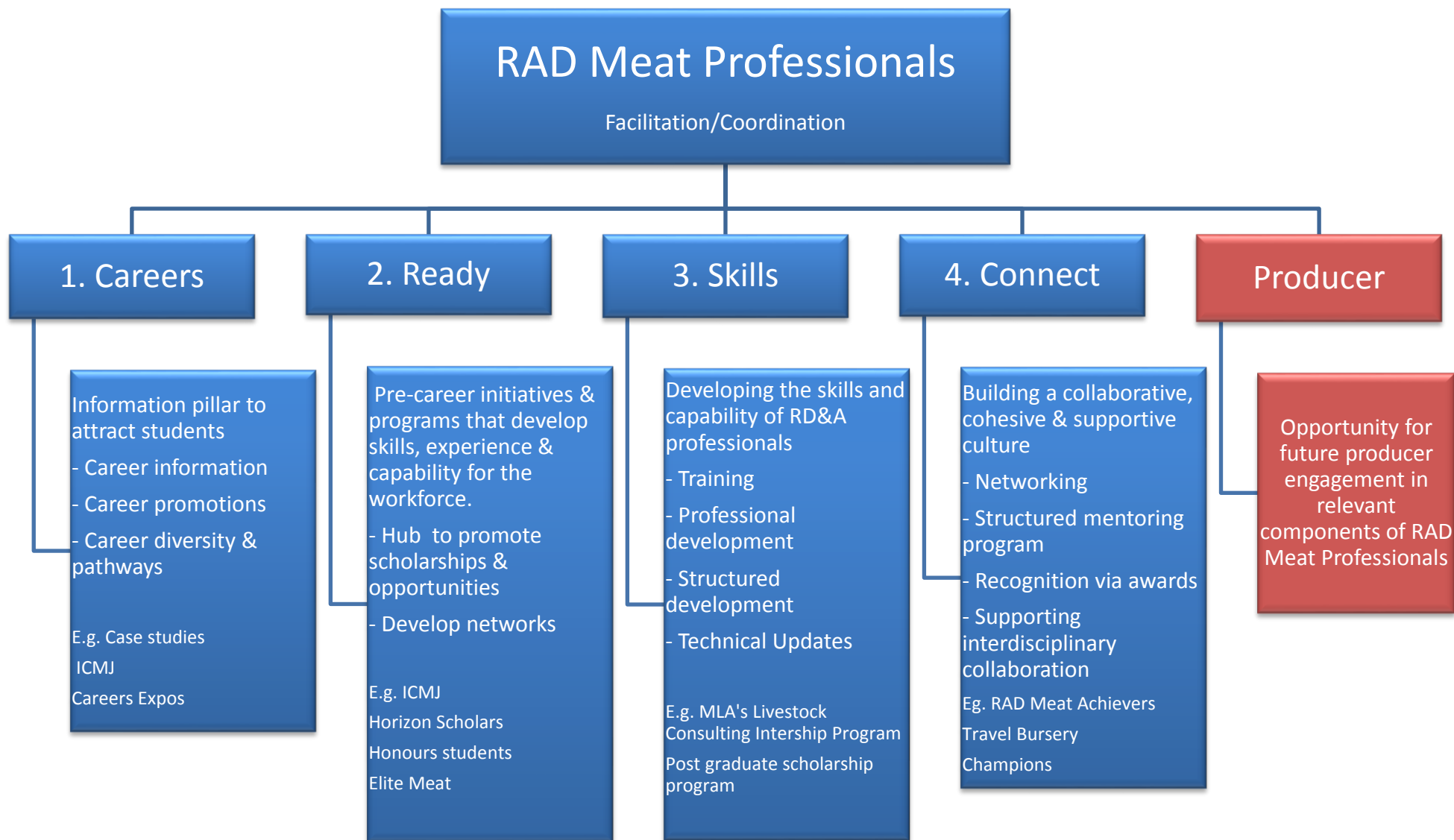


Figure 15 RAD Meat Professionals Framework

6.1.4 RAD Meat Careers

What? The RAD Meat Careers pillar is an information pillar, which includes career information, career promotions and strategies that the red meat industry may implement to attract students to careers in RD&A.

Who? RAD Meat Careers is primarily targeted at tertiary students; however elements of the RAD Meat Careers pillar may be relevant to senior secondary students.

Proposed structure and activities for RAD Meat Careers

There are a number of existing events, which should be offered the opportunity for promotion via the RAD Meat network. There may also be an opportunity to collaborate with the hosts of these events to enhance their impact. These programs and events include:

- ICMJ and in particular the ICMJ Careers Expo
- FFN Young Beef Producers Forum (YBPF)
- Future Flock Forum
- University career expos such as the University of New England's (UNE) Farming Futures Expo.
- School based programs such as Art4Agriculture

Additional initiatives to be offered under RAD Meat Careers should include:

- a series of web-based case studies profiling various career pathways both in traditional written form, but also as podcast or video interviews
- continued support of events such as those listed above with an emphasis on promoting the diversity of red meat industry careers
- host a panel session at future ICMJ events under the 'RAD Meat Professionals' banner. Similar sessions could also be run at events such as YBPF, LambEx, proposed FutureFlock event, breed society youth shows or junior judging events
- Curated list of other websites etc. that provide information on RAD careers to be provided on the central hub

A key component of this pillar will be the implementation of a recognised RAD Meat brand to ensure consistency of messaging and to promote how rewarding a RAD career can be. This includes a social media and communication strategy which embeds #RADMEAT across all promotional material.

6.1.5 RAD Meat Ready

What? RAD Meat Ready pillar includes a range of initiatives and programs that will help students to be 'ready' for a career in the red meat industry including both formal and informal training and experiential activities. It also involves developing a network of contacts to help further progress their career pathways.

Who? RAD Meat Ready is targeted at tertiary students (university and vocational education & training) across disciplines that give the students the professional skills, experience and networks to pursue a career in the red meat RD&A portfolio.

Proposed structure and activities for RAD Meat Ready

As with the Careers pillar there are a number of current programs and events, which could be supported and promoted through RAD Meat Ready. These include:

- ICMJ
- AgriFutures Horizon Scholarship
- Breed and show society scholarships and competitions
- FFN bursaries
- University/college specific scholarships
- Elite Meat Undergraduate scholarship program

Additional initiatives to be offered under RAD Meat Ready should include:

- A central hub (online) for scholarships, internships, post-graduate and other opportunities
- A number of annual bursaries (for example \$5000 each) or travel bursaries (\$2000 each) for Honours students conducting a red meat industry project and development of a support/mentoring program for these students
- A framework for summer internship/honours programs. This would, for example, include the provision of information for employers on appropriate work/legal requirements and information for students applying. It may include a platform for advertising roles
- Develop and train a pool of industry leaders who can provide guest lectures on specific topics. The purpose of this is to provide students with an insight as to how their skills will be applicable to industry and enhance the connections and relationships between industry/MLA and universities who offer courses relevant to the red meat industry
- Initiate 'RAD Meat Champions/Ambassadors' to promote RAD Meat activities
- Develop a research/innovation "shark tank" type competition for tertiary students (honours) – similar to the eTech challenge recently launched by Australian Wool Innovation

6.1.6 RAD Meat Skills

What? The Rad Meat Skills pillar is to identify and coordinate ongoing skill development, training and professional development opportunities.

Who? RAD Meat Skills is targeted at RD&A professionals already working in the red meat industry as well post-graduate students.

Proposed structure and activities for RAD Meat Skills

Existing programs and activities which should continue to be supported and promoted by RAD Meat Skills include:

- MLA's Future Livestock Consulting Internship Program
- MLA's Young Food Innovators Program
- Cattle Council Rising Champions Initiative (including industry RD&A professionals)
- Sheepmeat Council of Australia (SCA) Building Industry Leadership Capability program
- Beef Australia Graham Acton Beef Connections program
- Professional development programs run under the APEN and Australian Institute of Agriculture
- MLA and CRC supported post graduate positions and development of programs such as the IA CRC's Balanced Scientist Program for MLA's Scholarship program

A key activity under the RAD Meat Skills pillar is the development of a series of technical updates for RD&A Professionals. These updates would:

- Be held annually in a number of locations across Australia (for example one to two in each state). The aim of these updates will be to provide an information exchange with RD&A

professionals and to provide a conduit for MLA to deliver new industry information to RD&A professionals. This will also provide an opportunity for consultation and feedback if required

- Provide RD&A professionals with networking opportunities and the sessions may include a professional development opportunity as part of the event. The results from the survey indicate that professionals are willing to pay for such a service
- There are a number of models that may be considered for the implementation and roll out of these updates. For example, a regional committee could be formed to help identify topics, to promote the event, to provide local knowledge for the organisation of the event and to identify potential partners to ensure adequate numbers attending. Where possible, these events could also be held in a location where there is a university to help build the relationships between industry and universities and to utilise relevant expert speakers
- The existing Profitable Grazing Systems network should be utilised to support these updates

Additional initiatives to be offered under RAD Meat Skills should include:

- Create a 'package' for higher degree students with competitive stipends/scholarships (from honours level and above), as well as professional development, networking, strong links to industry and support i.e. mentoring/coaching for the students. The IA CRC Balanced Researchers Program and to some extent the Sheep CRC program, provide a template that should be considered for current and future PhDs funded by MLA
- MLA funded and part-funded higher degree students are included in the PhD professional development and networking program established in the point above.
- RD&A groups or organisations can apply for an annual bursary (of up to \$10,000) for a recognised 'Industry Expert' to come in from interstate or overseas for a particular event or to provide expertise in a particular research area relevant to the red meat industry
- Facilitate the identification and delivery of short courses (online or in conjunction with other events) on topics such as public speaking, writing, stakeholder engagement, project management. From the survey, ongoing training in the latest technical skills was also identified as critical
 - It is proposed that the user pays for this service (there may be scope to open such opportunities to other industries encouraging cross industry collaboration of professionals)
 - The RAD Meat framework could either maintain a database of training providers or provide an online discussion platform where members ask the RAD Meat community for training suggestions
- Specific training and support as identified in the survey results (section 4.4)
- Accreditation - if there is demand by industry in the future for the accreditation of RD&A professionals, the RAD Meat Skills pillar may help to facilitate this.

6.1.7 RAD Meat Connect

What? RAD Meat Connect is a 'support' platform for networking, collaboration, mentoring and recognition.

Who? RAD Meat Connect is targeted at RD&A professionals already working in the red meat industry. It will also provide an opportunity to connect students with RAD Meat professionals.

Proposed structure and activities for RAD Meat Connect

Existing programs and activities which should continue to be supported and promoted under this pillar include:

- Mentoring, discussion groups and other networking events run by organisations such as the FFN, FutureBeef, APEN, AIA and ICMJ
- Depending on the outcomes of the trial 'A Leg Up – Mentoring Program', it could also be included under this pillar

Additional initiatives to be offered under RAD Meat Connect should include:

- An annual awards process where nominations are received under various categories. It is recommended that awards should in the form of a travel or training bursary (to further enhance the professional development). The purpose of the awards will be to promote the red meat industry as having a progressive and positive culture, acknowledge and celebrate the achievements of RD&A professionals
- A networking/information exchange platform for all RD&A professionals at all stages of their careers
- A program to build linkages with international professionals (and organisations where they exist) and promote exchange of information and expertise
- Opportunities to build linkages with other industries to encourage cross collaboration on relevant issues and to share opportunities and resources relating to professional development

6.2 RAD Meat Professionals administration

6.2.1 RAD Meat coordinator

The RAD Meat Coordinator supported by MLA, should:

- Develop and implement the RAD Meat Professionals Business Plan
- Administer the RAD Meat Professionals online presence
- Provide support to other organisations running events and programs which meet the objectives of RAD Meat
- Coordinate industry partners to fund specific activities such as RAD Meat Awards
- Coordinate the MLA Scholarships program
- Work with the PGS Coordinator to support training and technical updates across the PGS network

6.2.2 RAD Meat Professionals online

The RAD Meat Professionals framework needs a website and associated social media presence to provide a platform for information sharing and networking. The website should be mobile-friendly and designed to integrate with existing social media platforms. While the website administration should remain with the MLA RAD Meat Coordinator, users should be able to generate content such as event listings similar to the FutureBeef website.

6.2.3 RAD Meat Professionals funding

This section outlines some of the potential funding options that may be considered.

A. Membership

Having a membership base framework that relies on the subscription of fees from members could be an option, however there are challenges with this model. The framework would have to demonstrate a value proposition with clear value for money, potentially compete with other member-based organisations and would then require a structure to govern and administer it.

B. User pays

Where the RAD Meat Framework delivers services such as professional development, a user pays system seems appropriate. The costs may be subsidised by sponsorships/grants or other means.

C. Industry levies

Where appropriate and to meet the imperatives in the MISP, industry levies may be utilised. For example the MLA Scholarships program

D. Government

There may be opportunities for government funding which would be useful particularly in the establishment phase, however such funding often has short time frames.

E. Partnerships, Sponsorships and Co-investment

Given that the key beneficiaries of the RAD Meat framework are RD&A professionals from across the industry, partnerships or sponsorships from specific companies, government departments or industry organisations may provide win-win scenarios for particular events or components. Some of the awards or initiatives may attract co-investment opportunities.

6.2.4 Evaluation

As part of the business plan, a monitoring and evaluation process should be developed to accurately and effectively measure how the framework is impacting on recruitment, retention and increasing the quality of RD&A professionals.

- The M&E process needs to go beyond just how many people enrolled in a particular course
- The value of the framework needs to be clearly identified to ensure it is given an appropriate level of funding and prioritisation across industry

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Appendices

Appendix I – Industry survey

1. What state do you work in?
2. What is your gender?
3. What is your age?
4. Are you?
 - a. Studying with the intention of working in the red meat industry.
 - b. Currently working in the red meat industry.
 - c. Previously worked in the red meat industry.

Students interested in the red meat industry

1. What level of degree and area are you currently studying?
2. What influenced you to choose this degree/area of study?
3. Do you expect to continue studying after you finish this degree?
4. What degree/area do you plan to study?
5. What key incentives would attract you to consider undertaking a PhD in the red meat industry?
6. What type of role do you hope to get in the red meat industry after you finish studying?
7. How important would the following factors be in attracting you to a future RD&A role in the red meat industry?

<ol style="list-style-type: none"> a. Salary b. Other remuneration benefits c. Job location – prefer city based d. Job location – prefer regionally based e. Clear career path progression f. Support for further study/training g. Opportunity to travel domestically h. Opportunity to travel internationally 	<ol style="list-style-type: none"> i. Formal professional development program/network j. Mentor k. Workplace flexibility eg work from home l. Opportunity for secondment m. Opportunity for overseas placement
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8. What are the top 3 to 5 subject areas that you would like to see in a professional development program?
9. How would you prefer to have professional development delivered to you (1= least preference, 5= highest preference)?

<ol style="list-style-type: none"> a. One on one coaching b. Small groups face to face c. Large seminars/conferences d. Online self paced 	<ol style="list-style-type: none"> e. Online interactive ie webinars/discussion boards f. Other
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10. How long have you been working in the red meat industry?
11. What best describes your current occupation?

<ol style="list-style-type: none"> a. Student b. Extension/adoption officer c. Research program management d. Scientist/researcher e. Animal nutritionist f. Lecturer/teacher g. Livestock agent h. Consultant/advisor i. Animal health/livestock products rep j. Pasture agronomist 	<ol style="list-style-type: none"> k. Banking/agribusiness l. Agri-politics m. Livestock veterinarian n. Natural resource/environmental management o. Livestock genetics p. Producer q. Farm management r. Feedlot role s. Other (please specify)
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12. What species/commodity area(s) do you mostly work in?
- a. Beef cattle
 - b. Sheepmeat
 - c. Goats
 - d. Wool
 - e. Dairy
 - f. Other (please specify)
13. What type of organisation do you work for? (If more than one, select the one in which you spend the most time)
- a. Government
 - b. Research and development corporation (eg MLA CSIRO)
 - c. University/education institution
 - d. Private sector - small (<5 employees)
 - e. Private sector - med and large firms
 - f. Industry advocacy/agri-politics
 - g. NGO
 - h. NRM
 - i. Producer - own/family farm
 - j. Producer - work for someone else
 - k. Other (please specify)
14. What influenced you to choose this career?
15. How long do you expect to remain in your current role?
16. On leaving your current role do you expect/hope to:
- a. Stay in the same organisation but a different role
 - b. Change organisations but remain in the red meat industry
 - c. Leave the red meat industry
 - d. Retire
 - e. Don't know
 - f. Other (please specify)
17. Did you complete a graduate program in your first job?
18. If yes, what was it called?
19. What year did you complete the graduate program?
20. How important was the graduate program in attracting you to that company?
21. What did the graduate program include? How valuable was this experience?
- a. Technical training
 - b. Leadership training
 - c. Presentation and public speaking training
 - d. Monitoring and evaluation training
 - e. Workplace rotation
 - f. Mentoring Program
 - g. Other
22. Would you recommend this graduate program to others?
23. Why/why not?
24. What would you do to improve the graduate program?
25. What is the highest level of education you have completed?
26. How would you rate your skills in (1 being 'Poor' and 5 being 'Excellent')
- a. Technical writing
 - b. Professional writing
 - c. General writing
 - d. Public speaking
 - e. Project management
 - f. Project monitoring and evaluation
 - g. Media engagement
 - h. People management
 - i. Corporate governance
 - j. Producer engagement
 - k. Ability to train/mentor/support others
 - l. Commercial acumen
27. In the last 5 years, which areas have you completed training (either formal or informal) (list as above)
28. Who covered the costs to complete this training?
29. How much of your own time are you willing to invest in professional development each year?
30. How much money would you (or your employer) typically invest in your professional development each year?
31. How important is up-skilling and professional development to advancing your career?

32. To move to the next level in your career, what are the most important skills or knowledge you need to acquire? (Choose up to 5 – as per list in Q28)
33. What are the top 3 to 5 subject areas that you would like to see in a professional development program?
34. How would you prefer to have professional development delivered to you (as per list in Q13)
35. What are the key professional challenges you face as an RD&A professional?
36. What incentives or support do you think would help you to remain working in the red meat industry?
37. We have identified that informal networks and connections are critical to accessing information and providing opportunities for collaboration across RD&A. Based on this, how well connected do you feel to other professionals in the red meat industry?
38. Are you or have you been a supervisor/team leader/manager of RD&A professionals in the red meat industry?
39. What are the top 3 skills you have identified as being lacking in your team members? (As per Q28)
40. Have you been involved in the recruitment of new RD&A professionals?
41. Have any of the applicants been international students or internationally trained?
42. What was your assessment of their skills in the following areas compared to Australian applicants? (List as per Q28)
 - a. Less qualified/experienced
 - b. As qualified/experienced
 - c. Better qualified/experienced
43. Do you have any other comments or observations to make in regards to international applicants?

Worked in the red meat industry

This section is designed to understand why professionals who have previously worked in RD&A roles in the red meat industry have left the sector.

44. What is your current occupation?
45. What was your most recent occupation in the red meat industry? (list as per Q15)
46. How long did you work in the red meat industry?
47. What type of organisation did you work for? (list as per Q17)
48. What species/commodity area(s) did you work in? (list as per Q16)
49. What is your highest level of qualification?
50. What was the major field of study for your highest qualification?
51. What was your primary reason for leaving the red meat industry?

<ol style="list-style-type: none"> a. Offered position with greater remuneration/benefits elsewhere b. Raising children c. Caring for elderly/sick relative d. Retirement e. Inflexible working conditions f. No opportunities for further career advancement g. No jobs available in local area h. Studying – red meat related i. Studying – not red meat related 	<ol style="list-style-type: none"> j. Lack of permanent position k. More professional development opportunities elsewhere l. Other (please specify)
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52. Are there any particular incentives or support that would make you return to a position in the red meat industry?
53. What are the top 3 to 5 subject areas that you would like to see in a professional development program?
54. How would you prefer to have professional development delivered to you (list as per Q13)

Producers

55. What key skills/attributes do you think are essential for livestock extension/adoption advisors?

Appendix II - Summary of advanced courses in veterinary science in Australia and NZ (AVA 2016)

University	Course Name
Charles Sturt University	Master of Animal Science, Graduate Certificate in Captive Vertebrate Management, Honours research program
James Cook University:	Honours, Masters and PhD research programs, Grad cert tropical vet science (up to Masters)
Murdoch University	Masters in veterinary surveillance; Centre for Advanced Veterinary Education (CAVE)
University of Adelaide	Doctor of Veterinary Medicine (Masters by coursework); Honours, Masters and PhD research programs
University of Melbourne	Master of Veterinary Public Health, Masters and PhD research programs,
University of Queensland	Graduate Certificate and Diploma in veterinary studies, Doctor of Veterinary Science, Masters and PhD research programs,
University of Sydney	Graduate Certificates, Diplomas and Masters in animal science, veterinary studies, veterinary public health, Centre for Veterinary Education
Massey University (New Zealand)	Master of Veterinary Medicine

Appendix III - Desktop review of other agriculture industry professional development programs

Australian Sugar Industry		
Program	Aim/Purpose	Award
Sugar Research Australia		
1. Annual Sugar industry travel & learning Awards	To encourage innovative thinking by industry personnel through undertaking a learning activity that has the potential to benefit the Australian sugarcane industry. Applications must focus on key focus areas in SRA Strategic Plan.	<p>Professional development/ Bursaries Up to \$5K to RD&E professionals, technicians and industry service providers undertaking PD activities. Such as visiting field trials, farming methods, learning new skills An industry adoption or information-sharing event is expected following completion of the award.</p> <p>Industry Experts Up to \$10K to cover costs involved in inviting an expert(s) with a recognised international or national reputation to conduct an event or to provide expertise needed for a particular project or research area</p> <p>Travel Awards Up to \$5k for individual travel awards for travel to conferences, seminars, workshops, laboratories etc.</p> <p>Staff Placements Up to \$30K contribution towards longer-term staff placement, learning opportunity or development of new skills. Expected that new ideas, techniques & technology could form the basis of new RD&A initiatives. Financial & in-kind contributions expected.</p>
2. Early-career & mid-career Researcher Awards	Two awards every year to support innovative early career researchers (ECR) and mid-career researchers (MCR) who require initial results or a proof of concept prior to developing a larger project. Expand their skills or build highly valuable collaborations.	\$10-15K per award. Applicants must be no more than 15 yrs after completion of studies, currently employed & demonstrate a commitment to future of ASI
3. Sugar industry postgraduate research scholarships (SPRS)	For postgraduate research scholarships (Masters or PhD level), to fill capability gaps in focus areas compatible with ASI five-year strategic plan.	Awards are available for full scholarships and supplementary top-up awards for holders of Australian Postgraduate Awards (APA) or equivalent funding.
4. TRAILblazers scholarship	SRA has offered scholarships for established or senior sugar industry leaders to attend the Training Rural Australians in Leadership (TRAIL) Blazers course facilitated by the ARLF.	Award The scholarship placement includes course registration fees, return airfares, and accommodation the night before and after the course in Canberra.
5. Horizon Scholarship & Nuffield Scholarships		

Dairy Industry		
Program	Aim/Purpose	Award
The Gardiner Dairy Foundation	People Development Strategy – investing in emerging leaders to help develop a long-term future for the industry. The aim is to provide clear career pathways for young people, leadership development and good farm business management practices to attract and retain people and advance a vibrant dairy future.	
1. Farm Business Management Program	The Farm Business Management Program is for farm owners who are looking to take their business to the next level and are willing to give back to the dairy industry. The program offers 10 scholarships per annum across three years.	
2. Vets in Residence	The Vets in Residence program aims to build and maintain veterinary capacity in the dairy industry through advanced clinical training of vets at a number of Victoria's leading dairy veterinary clinics. It aims to develop much needed advanced veterinary expertise by offering graduate vets the opportunity to conduct research, provide extension, teach under-graduate vet students and strengthen their clinical skills.	
3. Australian Dairy Leadership Alumni (ADLA): A partnerships between the Gardiner Dairy Foundation, Dairy Australia and the Department of Economic Development, Jobs, Transport and Resources	The ADLA brings together the graduates of 5 executive leadership programs. It aims to continue building their leadership capability and harness their intellectual capacity, energy and drive to improve the performance of the Australian dairy industry.	Involves an annual summit of alumni members incorporating a series of events, forums and activities and networking
4. Nuffield Farming Scholarship		
5. Gardiner Dairy Foundation New Zealand Study Tour	Aims to attract and retain the next generation of dairy professionals by offering them an opportunity, early in their career, to see the industry as a desirable and rewarding place to work. The tour forms part of an accredited unit of the National Centre of Dairy Education: Certificate IV Support and Review Business Structures and Relationships, and aims to engage passionate and skilled ambassadors who will work in and promote the industry.	An annual tour for five high-potential Victorian dairy industry representatives to travel to NZ where they learn about the local dairy industry, build their networks and gain valuable insights into world-class farming practices.
6. Tertiary Scholarship Program	Scholarships play a vital role in supporting high-potential rural students to gain the skills that will help to drive the industry forward and make their communities vibrant places to live.	Tertiary scholarships of \$10,000 per annum to four individuals pursuing a career that will directly benefit the dairy industry and/or a small dairy community. Twelve tertiary scholarships are currently being funded to support university and TAFE students across the state.
7. Regional Community Leadership Program Scholarships	The Victorian Regional Community Leadership Programs (RCLPs) are designed to assist individuals to develop their leadership capacity and prepare them to transition into leadership roles.	The Gardiner Dairy Foundation provides scholarships for up to 10 emerging dairy leaders (one dairy farmer and one service provider) each year, across the five key dairy regions of Victoria.
Dairy Australia		
1. Dairy Farm Business Management Scholarship	Dairy Australia has developed a postgraduate scholarship program for farm	Scholarship allowance to a maximum of \$30,000

	business management university graduates. The scholarship offers two Australian students the opportunity to study a one year Postgraduate Diploma in Agriculture Commerce in New Zealand at leading dairy education campuses, Massey University or Lincoln University.	covering all relevant costs including course fees, airfares and living allowance.
2. Dairy Science Travel Grants	The key objective is to grow capability across the Australian dairy industry by helping dairy researchers and service providers who are early in their career, and PhD students, to build networks and knowledge in their chosen field by attending one of the world's largest dairy science research conferences – JAM 2016. JAM 2016 is the Joint Annual Meeting of the American Dairy Science Association and the American Society of Animal Science.	Travel grant for early career research or service providers. Dairy Australia will provide a travel grant of \$6000 to the successful applicants. The travel grant is to be used to cover airfares, accommodation, meals, conference registration and miscellaneous travel expenses.
3. Dairy Manufacturing Scholarship Program	The key objective of the program is to attract recent graduates and diploma holders into the dairy industry and train them in relevant aspects of dairy manufacturing.	Annually Dairy Australia offers dairy manufacturing scholarships to four new graduates and diploma holders. The scholarship provides a generous living allowance and includes 10-12 weeks training. This comprises of dairy manufacturing theory and practical sessions at the National Centre for Dairy Education (NCDE), Werribee and is complemented by industry placements at several leading dairy manufacturing companies.
4. Developing Dairy Leadership Program (DDLDP)	Australian Dairy Farmers work in collaboration with Dairy Australia to drive the Developing Dairy Leadership Program (DDLDP), which is managed by the National Centre for Dairy Education (NCDE). The DDLDP has three tiers of industry leadership.	
5. Emerging Dairy Leaders Program (EDLP)	This is sector-wide approach to nurturing leadership talent in the dairy industry. This is for the first tier of the industry's three tier industry leadership framework	All costs associated with education enrolment, travel, accommodation and meals are covered by this program.
Dairy Research Foundation		
1. Dairy Research Foundation - Emerging Dairy Scientist's program	The whole philosophy of the Foundation is to nurture emerging dairy scientists. At the annual Symposium 8 young dairy scientists are given a unique professional development opportunity.	Award: Travel assistance available Each student given a farmer/scientist/service provider mentor

Australian Pork Industry		
Program	Aim/Purpose	Award
Australian Pork Limited (APL)		
1. Industry Scholarships	<p>Industry Placement - The aim of the award is to recognise high calibre undergraduate students and foster their interest in pursuing a career in the pork industry. Students are funded to do a placement at a piggery for a min of 2 weeks (up to a max of 8 weeks).</p> <p>Undergraduate honours scholarship APL supports undergraduate honours scholarships within an area of research aligned to the APL strategic plan.</p> <p>Post-graduate scholarship APL supports post-graduate awards including Masters and PhD programs which are two and three years in duration, respectively.</p>	<p>Scholarships are provided of up to AU\$500 per week of piggery placement and a final report on the student's experiences is submitted to APL.</p> <p>Undergraduate scholarships for one year with a max of \$5,000 stipend & \$5,000 operating costs.</p> <p>PhD - If successful in obtaining an APA an APL supported student can then apply for an APL top-up scholarship so that the total scholarship is \$28,000pa.</p> <p>APL fund supported students to attend the Australasian Pig Science Association, the Pan Pacific Pork Expo, and the Victorian Pig Fair to be able to immerse themselves within the pork industry and research communities.</p>
2. Science and Innovation Awards for Young People in Agriculture		APL Support the Science and Innovation Awards for Young People in Agriculture
Pork CRC		
3. Industry Scholarships Pork CRC Honours Scholarship.	Pork CRC has trained at the honours & postgraduate level, by sponsoring their placement in a commercial pork production organisation within the Australian pork industry in a structured and enhanced development program.	The award is valued at \$10,000. That's \$5,000 for the operating costs of the project and \$5,000 as a stipend.
4. Travel grants	Pork CRC research travel grants are available for Pork CRC members and researchers of Participant organisations	Travel grants up to \$3000

Grains Industry		
Program	Aim/Purpose	Award
GRDC		
1. GRDC research scholarships at tertiary institutions	<p>The GRDC invests in scholarships at tertiary institutions to develop highly trained and motivated researchers and extension specialists to drive innovation in the grain industry.</p> <p>Grains Industry Research Scholarships (GRS) The Grains Industry Research Scholarships (GRS) are available to undertake postgraduate research in areas of priority for the GRDC and the Australian grains industry.</p>	Applicants must have APA. The GRDC will provide successful applicants with a tax free top-up stipend of up to 75% of their base scholarship in addition to an annual operating budget up to \$10k

	Grains Industry Undergraduate Honours Scholarships (UHS) supports graduates who wish to pursue an honours year of research in areas that contribute to development and/or adoption of innovation in the Australian grains industry.	The award provides a stipend of \$12k per student during the one-year of study.
Seed of Light Award	The GRDC Seed of Light Award was initiated in 1999 and is presented each year to someone who makes a significant contribution to communicating the outcomes of research	
2. Grower and Adviser Development – Study Tours	The GRDC Grower and Adviser Development Program (GAD) study tour component is targeted at groups of Australian grain growers (and accompanying advisers, or groups of advisers) seeking to arrange and undertake study and professional development, requiring travel to access these opportunities or to support the travel of an expert in a specific scientific field to visit a community to share their knowledge and experience.	Funding opportunities are offered twice each year, where applications will be received for GRDC support for: Up to one international development support program per region in the following six months, not exceeding \$30,000 per application and Up to six domestic development support programs per region in the following six months, not exceeding \$15,000 per application.
Others		
Boosting Grains R&D Project (WA) Supported by Royalties for Regions (2016)	Aims to re-energise and build a lasting regionally based research and development (R&D) capability to boost the productivity and international competitiveness of WA grain growing businesses.	Applicants who have obtained a university studentship or similar (Australian Postgraduate Award, APA) will receive a top-up to a total of \$45,000 p.a. A stipend of \$25,000 p.a. will be available for students without an APA. Project operating costs up to \$20,000 p.a. to cover research project costs and enable regional and field based trial work. Conference Travel Allowance of \$5,000 will be available over the life of the study period. Additional skills development assistance of \$2,500 is available over the life of the studies

Cotton Industry		
Program	Aim/Purpose	Award
Cotton Research and Development Corporation		
1. Postgraduate Scholarships	CRDC provides Postgraduate Scholarships to postgraduate (masters or PhD) students to assist with the completion of an industry-specific project.	The Postgraduate Scholarships are valued at \$36,000 pa, which includes a student stipend of \$30,000 pa and an operating stipend of \$6,000 pa.
2. Summer and Honours Scholarship	The Summer and Honours Scholarship program provides students with an opportunity to work on a real project in a working environment as part of their professional development. The scholarships enable university students to conduct short research, extension or industry projects under the direct supervision of a researcher or extension officer from either the public or private sector.	
3. Horizon Scholarship Program	CRDC supports the Rural Industries Research and Development Corporation's (RIRDC's) The Horizon Scholarship, sponsoring at least one undergraduate student studying an agriculture-related degree to undertake the program.	The program provides a \$5,000 bursary to the student each year for the duration of their degree along with professional development, mentoring, industry placement and networking opportunities.
4. Travel Grants	Travel applications support current industry researchers and personnel to attend national or international conferences or events, which allow them to present their research and/or build their knowledge and professional networks.	Funding of up to \$2,500 is available to cover transport, accommodation and event registration fees.
5. Scientific Exchanges	Scientific exchanges provide opportunities for industry researchers and personnel to widen their research perspective, gain a broader research experience, build new knowledge, foster scientific collaboration and stimulate Australian cotton research.	Funding of up to \$5,000 is available to cover travel and accommodation costs of the identified exchange candidate. The proposed exchange must be of benefit to the Australian cotton industry.
Cotton Australia		
1. Nuffield Farming Scholarship		
2. Peter Cullen Trust Science to Policy Leadership Program	This leadership program is for those working in science, policy or the management of water. It focuses on raising awareness of key issues amongst mid-career professionals, and building leadership and communication skills specifically on water and catchment management in Australia. The program provides training, support, a mentoring program, ongoing professional development and a structured 'National Fellows Network'	
3. Australian Rural Leadership Program (ARLP)	The ARLP is for established leaders who provide products and services of a material, social, cultural, economic or environmental nature; or offer policy support, advocacy, or expertise that contributes to	

	development and resilience in the cotton industry and rural communities. The Australian Rural Leadership Foundation delivers the course.	
4. TRAIL for emerging leaders	Training Rural Australians In Leadership (TRAIL program) is an eight-day cross-sector leadership program set in Canberra for Australia's future rural leaders. The Australian Rural Leadership Foundation delivers the course.	The cost of TRAIL is \$9,000 plus GST.
5. Australian Future Cotton Leaders Program	<p>The program is an initiative of Cotton Australia in partnership with the CRDC. It is the premier leadership development program for the Australian cotton industry.</p> <p>The program is for people keen to progress their leadership and who are actively involved in a cotton enterprise or related area such as cottonseed, ginner, extension, research, consulting or merchant.</p> <p>The program has four key stages:</p> <ul style="list-style-type: none"> - Leadership Development - Individual Skill Application and Project Goal - Leading Change - Contributing to Industry 	

Australia Wool Industry			
Program	Aim/Purpose	Award	
Australian Wool Innovation (AWI)			
1. Australian Wool Innovation - Education and Leadership Opportunities	Professional development for researchers, consultants, extension specialists and AWI network coordinators through AWI supported R&D updates and conferences focused on the role of wool sheep in a profitable enterprise mix.	AWI supports Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry.	AWI funds the participation of a wool industry leader in the Australian Rural Leadership Foundation's Australian Rural Leadership Program (ARLP).
2. Woolwise - Australian Wool Education Trust	Supports significant wool education initiatives in Australia, particularly in wool and wool textile science and technology. Including: Travel Performance awards Support to universities Deliver of sheep and wool education modules Undergraduate scholarships Undergraduate project and masters by coursework scholarships VET sector Marcus Oldham College – Alistair Mackenzie Scholarship	Applicants interested in a career in the Sheep and Wool industry can apply for the Alistair Mackenzie Scholarship to Marcus Oldham valued at \$15k.	
3. Breeding Leadership	The five-day course explores themes of marketing, leading and managing people, corporate governance, time management and strategic planning and includes some time on farm.		

4. National Merino Challenge (Attracting students to careers in the wool industry)	The NMC is a national breeding competition, which aims to improve the engagement of young people with the Merino industry by developing their skills and networks. Open to late secondary and tertiary students		
5. Tech eChallenge Wool Innovation	The Tech eChallenge Wool Innovation program is run by the Entrepreneurship Commercialisation and Innovation Centre (ECIC) at The University of Adelaide. It was developed to support new innovations in the Australian Wool Industry This 12-week program is a hands-on, experiential course based around the successful innovation process developed by ECIC.	\$60,000 in total prize money	

Horticulture Industry		
Program	Aim/Purpose	Award
Horticulture Innovation Australia		
1. Horizon Scholarship (Nursery)		
2. Nuffield Scholarship (Various industries)		
3. Marcus Oldham College scholarship (Apple/Pear)	For leaders to undertake a Diploma of Agribusiness at Marcus Oldham College	This project covers two \$10,000 scholarships towards the cost of undertaking the Diploma
4. VegPRO Initiative (Vegetables)	VegPRO provides 'Training Coordination Services', for the levy vegetable industry at any level from employee to manager where a need, benefit and commitment to attend training exists. Training programs will be custom made to suit the participant's needs.	
5. Growing leaders Program (Vegetables)	Growing Leaders is the only national industry specific leadership program for the Australian vegetable industry and was with the specific needs of growers in mind. In its sixth year the program now has a graduate population of well over 100 people of all ages and from all sectors of the vegetable industry including growing, processing, wholesale and extension. Growing Leaders focuses on developing skills that participants can apply at three key levels – personal, business and national industry.	
6 NxGen 2016-2018 (Turf)	Conduct an annual NxGen forum with the aim of encouraging and promoting leadership development and professional networking for the under 40's within the Turf industry.	
7. Growing green leaders (Nursery and Turf)	This project will develop the leadership capacity of a core group of participants from across the nursery and turf industry supply chain. The project will develop and deliver a one-year leadership course consisting of up to 2 x 2 day workshops and supported by an online mentoring function, for up to 15 participants annually, for 3 consecutive years	
Horticultural Australia Coinvestment programs		
1. Masterclass for Horticultural Business	Up to 30 selected industry leaders each year will be exposed to a ten-	Up to 22 scholarships are available in 2017 to assist

	<p>month program of learning focused on global trends in agriculture and horticulture, international business, innovation, value chains, and governance and risk. The University of Tasmania is leading the project with input from Wageningen Academy in the Netherlands and Lincoln University in New Zealand. The program is best described as a mini – MBA and will be delivered via face-to-face and online learning. There is no other program of this nature in the Australian training landscape.</p>	<p>selected growers with the costs of participating in this program.</p>
2. National PhD scholarship Program	<p>Under this program, up to six PhD scholarships will be offered to students from universities across Australia. The scholarships will be advertised to students from a range of disciplines to attract a new pool of leading researchers to the horticulture industry. All PhD level research undertaken must be cross industry focused and must be transformative in nature. All people involved in this scheme will come together every two years for leadership training and industry networking.</p>	
3. Attracting New Entrants into Australian Horticulture	<p>This program is a national university scholarship and graduate employment scheme. Under this scheme, horticultural businesses will co-invest with Hort Innovation to award a minimum of six \$8,000 scholarships to final year university students from a range of disciplines each year. Scholarship recipients will be required to undertake an industry internship with co-investing businesses. These same businesses will have the opportunity to employ the students following graduation, again under a co-investment scheme. This cohort of newly employed graduates will participate in a five-day face-to-face leadership program in their first year of employment, delivering benefits to both the individual & the business.</p>	
4. Churchill Fellowship	<p>This project will provide three Churchill Fellowship scholarships per year over a five-year investment period for people from the Australian horticulture sector.</p>	<p>The scholarships will provide up to \$30,000 funding per scholar to enable overseas travel to investigate a research topic, which has cross-sectoral benefit to the Australian hort sector.</p>
5. Advancing women's leadership across the Australian horticulture sector	<p>Scholarships will be awarded to women from the industry to enable participation in one of three of the leadership programs run by Women and Leadership Australia. The following scholarships will be available:</p> <ul style="list-style-type: none"> - 10 scholarships per year for women with emerging leadership skills to enable participation in the four-month Accelerated Leadership Performance program - 5 scholarships per year for women with “mid-level” leadership skills to enable participation in the nine-month Executive Ready program - 5 scholarships for women currently working at a senior level to enable participation in the 12-month Accelerated Leadership Performance Program 	

Australia Seafood Industry		
Program	Aim/Purpose	Award
1. The National Seafood Industry Leadership Program	The Program is designed for people wishing to take up leadership roles within the seafood industry. These roles maybe at a sector level or regional level but participants may also have national and international leadership aspirations. The focus, however, of the program is for participants to develop an understanding of how to impact constructively, resulting in positive outcomes for the seafood industry nationally. Delivered through funding from the Fisheries Research and Development Corporation (FRDC) and developed, managed and delivered by Rural Training Initiatives P/L.	

Appendix IV - International programs

USA	
The American Society of Agricultural Consultants http://agconsultants.org/	<p>Founded in 1962 a non-profit organization dedicated to raising the standards of professional agricultural consultants. ASAC represents the full range of agricultural consultants specializing in all areas of agriculture. Strict code of ethics and up to date database of consultants – publically available.</p> <ul style="list-style-type: none"> - Certified Agricultural Consultant – 4 yr degree plus 5 years consulting experience - Annual conference - Regular professional courses eg ‘Consulting Firm Management: Startup, Growth and Management’
American Registry of Professional Animal Scientists http://www.arpas.org/	<p>Provides certification of animal scientists through examination, continuing education and commitment to a code of ethics, and disseminates applied scientific information through publication of a peer reviewed journal. Affiliated with:</p> <ul style="list-style-type: none"> - American Dairy Science Association - American Meat Science Association - American Society of Animal Science - Equine Science Society - Poultry Science Association - Federation of Animal Science Societies
Federation of Animal Science Societies	<p>Forum to discuss common issues across animal science Funds the Congressional Science Fellows Program – Phd student represents FASS in Washington Assists member groups with headquarters services</p>

United Kingdom	
Agricultural Industries Confederation	
Representative body on policy	
Also offers members:	
<ul style="list-style-type: none"> - briefings on policy - quarterly journal, research reports and policy documents - Annual agribusiness conference - Sector based working groups for networking 	
Biotechnology and Biological Sciences Research Council (BBSRC) Advanced Training Partnerships	
o Sustainable and Efficient Food Production (IBERS -	Aimed at producers

Aberystwyth University, Bangor University and NIAB-TAG)	
o The Food Advanced Training Partnership (University of Reading together in partnership with the University of Birmingham, Leatherhead Food Research and Rothamsted Research)	
<ul style="list-style-type: none"> • AgriFood Advanced Training Partnership (University of Nottingham, Harper Adams University College, Cranfield University and Rothamsted Research) • Training courses for anyone from farmers, to food processing, retail, consultancy • Eg Meat Business Management From single unit through to Doctorate 	
o Intensive Livestock Health and Production (Royal Veterinary College in partnership with Edinburgh, Newcastle and Cambridge Universities)	
British Institute of Agricultural Consultants (since 1957)	
<ul style="list-style-type: none"> • Register of members • Networking, training, promotional • To facilitate and enhance the provision of impartial high quality advice to those in the rural, environment and food sectors by accredited professional consultants. • To demonstrate that BIAC is the best source of Professional Rural Consultants. 	<ul style="list-style-type: none"> • To provide the independent consultant (the member) with a high quality, professional standing which demonstrates their commitment through BIAC proving their continuous professional development (cpd), PII, Fee Structure, Code of Conduct and Specialist Skills. • To support younger professionals to become effective consultants
England and Wales	
Fee for service provided by Agricultural Development and Advisory Services of Ministry of Agriculture, Fisheries and Food	
o Graduate programme	
o Support professional development and further study	
Farming Advice Service – advice on EU policies basically.	o Funded through DEFRA – Dept Environment, Food and Rural Affairs
o Cross compliance, payments, water and pesticide use	
o Free	
o Network of independent advisors	o Range of services provided by government
Scotland	
o Farm Business Advisor Accreditation Scheme	
o New Farm Advisory service launched in Sept 2016	
Institute of Organic Training and Advice	
• Accredited members directory	Information, training and accreditation for organic advisors and trainers

<ul style="list-style-type: none"> • CPD • Research dissemination • Annual seminar • Advisory tools 	
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Canada		
Farm Management Canada - National Farm Business Advisor Database	national organization devoted exclusively to developing and distributing farm management information to promote and foster the development of excellence in Canada's agricultural sector.	http://www.fmc-gac.com/advisory-services
Canadian Association of Farm Advisors (CAFA)	CAFA is the nationally recognized organization for professional farm advisors. CAFA advisors maintain high standards while continually increasing farm advisory skills and knowledge intended to provide measurable value to their farm clients.	www.cafanet.com/FarmAdvisorListing.aspx
Canadian Consulting Agrologists Association	Membership organization of professional consultants	www.ccaa.bz
Ontario Institute of Agrology	Professional regulatory body established in 1960. Includes farm business advisors, field sales agents, Ag finance service representatives and crop production experts that meet rigorous competency standards and abide by strict code of conduct and ethical practice requirements, as well as work within stewardship principles can achieve the Professional Agrologist (P.Ag.) or Technical Agrologist (T.Ag.) status. Licensed Agrologists are publically accountable and as such, a public complaint can be lodged with the OIA against a licensed Agrologist.	www.oia.on.ca

Agricultural Institute of Canada	Existed since 1920, branches in each province.	
Mandate	<ol style="list-style-type: none"> 1. Influence Public Policy 2. Disseminate Information 3. Promote Careers in Agricultural Research 4. Facilitate Networking 5. Be the key partner in Canada for international activity 	
Honours and Awards	Fellowship Award, Sustainable Futures Award and International Recognition Award	
International Program	International Agricultural Development Program – members work in a voluntary capacity in developing countries. Funded by the Canadian International Development Agency	
Accreditation Program	University degrees in agriculture accredited based on a framework to allow graduates to become Professional Agrologist. Since 2007 has been accrediting international degrees as well.	
Professionalism and Ethics Course	Online course	
Career Promotional material	Basic outline of different professionals eg agricultural economics, agronomy, etc	

Appendix V – Online career promotion material search results

Individual Companies	
Teys Australia	Glossy, high resolution brochure, available as pdf online
	Tells the story of the Teys and Cargill families and history of the company
	Focus on opportunity to “carve out a career in red meat”
	Includes a career pathway map with different qualifications and roles identified
Harvey Beef	Glossy brochure
	Offer training at certificate level
	Specific job descriptions
MDH	Detailed description of the types of roles they offer
Murdoch University	Identifies career paths in animal science/health from research through production, communication, policy and marketing
	Encourages work experience during university
Industry/Not for Profits	
Australian Meat Processing Corporation	Aimed at grade 9-10 ‘Work studies’
	Online curriculum resource
	Designed to provide an introduction to the Australian red meat processing sector and expand awareness of red meat career paths
	Includes links to videos from a range of processors
Journal of Animal Science	Lists careers available with a degree in animal science
	Text heavy, no videos
Rural Skills Australia	Groups careers by commodity eg beef, wool
	Lists types of jobs with a short description and the qualifications needed for each one.
Victorian Qualifications Authority	Pathways to a career: Sheep and Wool - Focus on sheep farming plus contracting jobs such as shearing
	Good table linking aspects of job people would like such as ‘I want to work outside’ with relevant jobs
WA Government – Career centre	Profiles sheep farmer, jackeroo/jillaroo, beef cattle farmer
	Career ‘slider’ has no Agriculture jobs listed for managerial, clerical, figures and computational, helping and community services, influencing and personal contact, medical,
	Agriculture jobs only listed under ‘Outdoor’, ‘Practical and Manual’, - all ‘farm level jobs.
	Only Ag job under ‘Technical and Engineering’ is Ag engineer
	‘Career possibility generator’ pushes those with high level technical skills, research skills, good communication skills etc towards careers in finance, engineering or medicine
MINTRAC	Text heavy and fairly brief
Careerfaqs.com.au	Marketing provider for a range of Australian universities
	Receives a commission based on each prospective student

	Also has tips on preparing resumes etc
	Lists animal production/care courses
	Lists the number of currently available 'animal care' jobs and average salary (very broad)
AgCareers	Only cattle job described is a cattle herd manager
Primary Skills Victoria	Has a specific page for the goat industry
	Generic information and focus on the production level