

Attracting and Retaining Young People in the Sheep Industry

A report for



By Jamie Heinrich

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Executive Summary

For the sheep industry to reach its greatest potential, it needs to have the right young people in the right places to help drive it forward. This report features a wide range of examples and opinions of young, driven and passionate people on the ground in the sheep and other agricultural industries. The aim is not to provide an academic or organisational solution to the issue, but to build on success stories and explore how, why and what is working for youth in the industry.

The report is split into three main sections:

- **Attracting:** How can the sheep industry improve its image to ensure it is attracting large numbers of capable young people?
- **Developing:** How can the sheep industry continue to develop young people who are interested in pursuing a career in agriculture?
- **Retaining:** How can the sheep industry get people to not only stay in agriculture, but succeed and help the industry move forward?

Examples of the findings are as follows:

Attracting

The sheep industry needs a new and improved image. A major factor in this is the mindset of many farmers. Positivity is important, rather than publicly playing victim. The current state of the industry should be celebrated, it compares well against most other industries.

Sheep farming is and should be promoted as being 'cool' and trendy. It can provide fulfilling careers through it's positive social, environmental, and economic opportunities i.e. the ability to work with animals while benefitting the environment.

Exposing young people to agriculture early is vital. Presenting it as a career opportunity alongside firefighters, police officers and doctors. Social media, school programs, farm visits and technology (such as virtual reality) are examples of tools that can be used.

Successful farms are run professionally as businesses, not just as farms. If a farm is run professionally it will treat its employees properly with all the appropriate wages and perks. Debunk the myth of limited opportunities for good employment in agriculture.

Developing

There is a growing need for a range of skills in a range of industry positions. To fulfill this, a full spectrum of clear study and career paths needs to be presented. The idea in schools that agriculture is for 'less study inclined students' needs to change. The future of agriculture requires the best and brightest. There are endless opportunities throughout the industry, not just on farm.

Retaining

Financial constraints are one of the biggest hurdles for getting into the sheep industry, especially for people who want on-farm businesses. Thinking outside of the box can provide solutions. It is no longer necessary to own land to be a sheep farmer. Encouraging connections between generations can go a long way towards providing solutions. Some of the options include: leasing, share farming, agistment and management positions. Forms of finance other than typical bank loans can also play a role in helping break the financial entrance barrier.

Getting off farm experience, handing over responsibility and using formalised communication methods are great starting points in making generational farms more attractive and less likely to fail.

There are always unique factors that make the sheep industry challenging for new and developing participants (as with any industry), but hopefully, this report provides some ideas and examples of what can and has been successful.

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Foreword

When I was in high school I was advised that agriculture was not a wise career choice. A lack of opportunities and potential remuneration were two reasons; because of this, even though it was my passion, I went on to get a Bachelor of Business (International Business) to keep my options open.

I am now co-owner and manager of my family's sheep farm on Kangaroo Island, and I hold industry leadership roles on national, state and local levels. I previously worked for a major Australian meat processor in both their livestock and marketing departments and have been overwhelmed by the abundance of opportunities within the sheep industry. So, it is safe to say I proved my advisor wrong.

Farmers in Australia and across the world are aging. Agriculture could use a new wave of young people. Before undertaking this scholarship, I found the sheep industry to be extremely welcoming and in need of young people, especially in leadership positions. It welcomed me with open arms into this arena. In the 18 months since the scholarship began, I have already witnessed changes in the industry's structure, making it more accessible for young people. As a result, many have moved into leadership roles.

I have always had a strong interest in helping the industry move forward and have been heavily involved with this progression through my own development, as well as youth leadership and mentoring roles. Despite appearances, there are already many amazing young people in the industry. We must capitalise on this momentum, and I hope this report can help in some way.

I acknowledge that there are many challenges for young people in the industry. While this report may not be applicable to all, it attempts to provide examples of what can and has been successful. It is predominantly based on my international (rather than Australian) experiences and knowledge gained whilst on Nuffield travels.

What follows are stories about the people I encountered along the way, who love agriculture, have paved successful paths in the industry and want to see it thrive.

Acknowledgments

I would firstly like to thank Nuffield Australia, and my investor Primary Producers South Australia. This was truly a life changing experience and was only made possible with Nuffield running it and PPSA providing the funding. I hope I can return the favour in the future and attempt to give back to the industry as much as I have gained, it will be a hard task to match.

The other major thank you goes to my parents Andrew and Tracie Heinrich, for the huge amount of support. I would not have had the opportunity to even think about doing a scholarship without their moral support and huge effort in stepping up at home in my absence. Words cannot express how appreciative I am for everything they have done.

Our full-time employee Larry Hacker, again without him stepping up at home, there is no way I could have been away for half of the year. The farm has continued to gain momentum, impressive when a full-time person is away for so long. Also, all the guys who chipped in for lambing, Lucy, Pam, Kate and Ashley.

Finally, to every single person who has hosted me, whether in their home for multiple nights, for a farm tour, a quick meeting or simply providing great contacts. I have lost count of all the amazing people, but it is well over 100. Every single one of them were great company, and I learnt something from them all. How amazing and lucky are we to be part of such a friendly, passionate and welcoming industry worldwide. I'm not sure what it is about farming, but it contains the most genuine and friendly people you could find anywhere. Although many people deserve a mention, these few went above and beyond:

- John and Sarah Yeomans
- Olivia Ross
- Alison Crane
- Alpha Sennon
- Yoléne Pagés
- Lorna Davis
- Mary Woodry Kopp and Stuart Kopp
- Ólöf Ósk Guðmundsdóttir
- My whole GFP group (and hosts)
- Rebecca Miller
- Georgie Heinrich

You guys are brilliant.

Abbreviations

ABS: Australian Bureau of Statistics

CYL: Cattlemen's Young Leaders program

FACE: Farming and Countryside Education

FFA: Future Farmers of America

LEAF: Linking Environment and Farming

MLA: Meat and Livestock Australia

NFF: National Farmers Federation

NSA: National Sheep Association

PPSA: Primary Producers South Australia

UK: United Kingdom

USA: United States of America

USDA: United States Department of Agriculture

Objectives

This report looks at key factors to attract and retain young people in the sheep industry (and agriculture, in general). The aim is to do this from a ground-up approach, using feedback from successful young people in agriculture to see how and why they have achieved their success.

The strategies can be split into three main sections:

- **Attracting:** How can the sheep industry improve its image to ensure it is attracting large numbers of capable young people?
- **Developing:** How can the sheep industry help develop young people who are interested in pursuing a career in agriculture?
- **Retaining:** How can the sheep industry get people to not only stay in agriculture, but succeed and help the industry move forward?

Chapter 1: Introduction

Agriculture, in general, is an essential “primary” industry — without it, the world would starve. In 2016, it was the best performing industry in Australia and the key reason why the domestic economy did not fall into recession (Davis, 2017). There is great future potential for the sheep industry, which is currently seeing close to record wool, lamb and mutton prices (Meat and Livestock Australia (MLA), 2018). While markets change, the situation at the writing of this report is very positive.

Farmers are aging, however, a concerning trend for a range of reasons, including the future long-term health of the industry. "The age profile of farmers has changed markedly over the past few decades. The median age of farmers increased by nine years between 1981 and 2011 ... Over the same period, the proportion of farmers aged 55 years and over increased from 26% to 47%, while the proportion of farmers aged less than 35 years fell from 28% to just 13%" (Australian Bureau of Statistics (ABS), 2011).

For the sheep industry to make the most of its potential, it needs to have the right young people in the right places to help drive it forward. This report features a wide range of examples and opinions of young people on the ground in the sheep and other agricultural industries. The aim is not to provide an academic or organisational solution to the issue, but to build on success stories and explore how, why and what is working for youth in the industry.

As outlined in the objectives, there are three main sections.

Chapter 2: Image (Attracting)

The sheep industry has an image problem. While 80% of the public say they trust farmers (United States Department of Agriculture (USDA), 2018), agriculture is rarely mentioned as a desirable career choice in schools. Interviewees from this report, Olivia Ross (New Zealand), Alpha Sennon (Trinidad & Tobago), and the author of this report (Australia), along with countless others, were told by their career advisors in school that agriculture was not a wise career or study path.

When you talk to most farmers though, they say they would not want to do anything else. They love their job. So, where is the image going wrong?

2.1 Mindset

The image problem starts internally. Farmers publicly complain about a host of issues, whether it is markets, subsidies or droughts. This creates the impression of a victim mentality in the media. How can the industry expect the public to see it in a positive light if farmers cannot even see it themselves?

Having the right mindset can make a big difference in getting the next generation into farming. Yolène Pagés (Pers. Comm, 2017), a French sheep dairy farmer, is part of that new wave. She wanted to be a farmer because *“it is a noble profession to feed the world. Just like how doctors provide people with care, I provide them with food”*.

The negative mindset is not always based on the industry’s reality either. Elizabeth Earle (Pers. Comm, 2017) from Northern Ireland grew up on her family farm and is passionate about sheep. She wanted to stay in the industry, but the farm could not support her, as well as her siblings. Her father told her she should use her brains to make better money than sheep could provide. She chose instead to graduate from agricultural college and complete a post-graduate degree. Now, Elizabeth works as an extension officer providing a key link between academics and farmers. She is a good example of how well-educated people can meet a need in the sheep industry.

Mindset can impact children growing up in agriculture. Elisabeth Nakielny (Pers. Comm, 2017), originally from a sheep farm in Wales (now living in Costa Rica) saw farming as a trap. She had no desire to follow her father, who worked nights as a doctor and farmed during the day to set up the business. She said it left little flexibility, and that every day was the same. Her sister,

Catherine, on the other hand saw her father's love in farming, wanted to stay in the industry, loves the lifestyle and is now looking to take over the family farm. She has held multiple industry roles and travelled the world with a Nuffield Scholarship. While agriculture is not for everyone, it is interesting how contrasting mindsets can result in very different outcomes from the same opportunity.

With the right mindset, anything can be achieved. In Israel, there is a goat dairy called Ofaimme Farm (Pers. Comm, 2017), in the middle of the Negev desert. It produces its own goat feed by sprouting barley in refrigerators, using solar power and desalinated aquifer water. The remaining dry matter is made up of wastage from a nearby date palm plantation. They have multiple farm shops selling milk, cheese and eggs from their other desert farming operation. Their positive mindset, passion and determination has turned a seemingly useless patch of desert into a productive and profitable farming business.



Figure 1: A dairy goat eating refrigerator-grown barley sprouts at Ofaimme Farm. Negev Desert, Israel. Photo: Author

2.2 A Business, Not Just a Farm

Kevin Moran (Pers. Comm, 2017), a fast-growing dairy farmer in Ireland, believes farmers make too many excuses for not growing their business, being profitable or being able to pay good wages. If they treated their farm as a business, with appropriate job titles and perks, there is no reason they cannot be as attractive to employees as other industries. Running a sheep farm as a professional business can make a huge impact on the attractiveness of the

industry. There is a perception that sheep require too much hard work and make less money than other forms of agriculture. Current farm profitability data in Australia would suggest otherwise (Martin et al, 2018). People in Ireland are moving into dairy rather than sheep, with most citing workload, profit and cash flow as the main reasons. Farmer Ed Payne (Pers. Comm, 2017) is one example who has one farm converted and is halfway through building a new milking parlor on another. There is a high level of professionalism, technology, data collection, traceability, infrastructure and modern payment methods used in the Irish dairy industry. Sheep in Ireland, on the other hand, were generally not ticking these boxes. If sheep farming collected the same level of production data, set up similar levels of handling equipment and found ways to manage cash flows (such as Farm Management Deposits in Australia), why can it not be as profitable and labour efficient as dairy, especially when there is no need for milking twice a day?

Linda Taggart (Pers. Comm, 2018), former farm hand and now a rural manager at Rabobank in New Zealand, said a lot of young people like herself did not pursue on-farm work due to low salaries and an inability to find good jobs. On the other hand, farmers say it is very hard to find good employees. Jón Ben and Ingveldur Sigurðsson (Pers. Comm, 2017) from Iceland have taken over Ingveldur's family's farm after her father passed away three years ago. Jón believes there is scope for expansion, with plenty of feed available through the summer, but the main obstacle is finding employees. There seems to be an inherent disconnect in this, because in Iceland there are more university graduates than opportunities (Guðmundsdóttir, Pers. Comm, 2017).



Figure 2: Jón Ben Sigurðsson at the farm, Norðurland vestra, Iceland. Photo: Author

2.3 Economic Opportunity

As mentioned previously, the market price for wool, lamb and mutton is in a great position. Indications are that the high prices (COVID-19 aside) are likely to remain above long-term averages as sheep flocks continue to plateau or drop in key exporting nations (low supply) and world demand keeps rising (high demand) (MLA, 2018).

Sanjay Mathur (Singapore-based ANZ chief economist for the Southeast Asia region, Pers. Comm, 2017) says there is a good prospect for sustainable growth in higher-end proteins such as lamb and sheepmeat throughout Asia as the demographics continue to move towards a more middle-class population. He mentioned that Asia will soon have the world's largest middle-class market, making products such as lamb, mutton and wool more affordable to more people.

The premium end of the market for meat protein is also growing. Ronald Green (Australian Consulate, Sapporo, Japan, Pers. Comm, 2017) sees a huge opportunity to segregate and sell a top-end-type Australian lamb product in Japan (i.e. like the Wagyu model). He says Japan is finding it harder and harder to maintain the supply of the top-quality foods that the population demands.

Currently, the United States of America (USA) only consumes 400 grams of lamb per person annually, according to Catherine Golding (MLA North America, Pers. Comm, 2018) with significant opportunity to grow. By comparison, Australia consumes nine kilograms per person. Despite this, the USA is still Australia's biggest value export market, and with growing ethnic populations and a renewed interest from millennials wanting to try an alternative protein, the market looks promising.

Alistair Campbell (Pers. Comm, 2018), a large-scale wool producer in New Zealand (Earnsclough Station) has seen increased interest from Italy for premium low micron, free range, ethically produced wool to make top end suits. This was a similar story for the extremely successful 'Icebreaker' lines of wool aimed at next-to-skin activewear. Wool, as a naturally produced product that is breathable and odour resistant, is in huge demand. If marketed properly, there is no reason why this level of demand cannot continue.

2.4 Social and Demographic Impacts

Agriculture plays a strong role in the social aspects of society, especially in rural areas. In fact, investing in agriculture is the most effective way to lift people out of poverty, according to Syngenta's Southeast Asia head office in Singapore (Pers. Comm, 2017). It can provide a stable income, as well as food for the community. Syngenta is using technology in the form of real time phone apps to help farmers be more productive (Pers. Comm, 2017). In India, technology is the most effective way to reach out when more than 90% of farmers have phones, even though many cannot read.

In Australia, rural communities are struggling more and more each year, as young people migrate to cities. Population decline, aging demographics and weakening local economies in small towns are forcing many businesses and community services to shut down. This is arguably even worse in the USA. At a National Farmers Union meeting in Washington, D.C., the discussion focused on the drastic decline of rural communities. The union believes the issue needs urgent attention and identifies it as one of their main political aims.

Perhaps the answer lies with encouraging more women to enter the sheep industry. Females make up 50% of the population and have a strong interest in agriculture, especially in working with animals. Currently, there are more female students studying agriculture in Australia than male (Australian University Rankings, 2017). While there are already great female farmers, more professional women need to, and are moving into, the industry. Removing the 'farmers wife' mentality and morphing this into professional women managing farm businesses for example. This could lead to a more balanced demographical structure in country towns, allowing for healthier communities.

This is a trend that is has yet to fully develop. In Scotland, for example, sisters Kelly and Hayley Blackwood (Pers. Comm, 2017) love to work with sheep, cattle and their dogs. They initially found it difficult to get into the industry, because they felt men still got a preference for farm hand/shepherd jobs. Now, they are both working full time as shepherds. The Blackwood sisters are just two of many examples of impressive women in agriculture throughout this report.

2.5 Working with Animals

The sheep industry can also appeal to people who want to work with animals, a key factor for women interviewed for this report. At the 2017 American Sheep Industry Convention, Temple Grandin (university lecturer and author, among many other things) said that in her experience, people enter veterinary studies because they want a career with animals. Most are unaware of the agricultural opportunities to work with animals.

Lindsay Fowler (Pers. Comm, 2017) had a non-agricultural background. Her only exposure was with a few cattle her grandparents had. Lindsay wanted a career where she could work with animals and went to university to study animal science, with an aim to move into veterinary medicine. After a vet placement, she decided not to pursue a veterinary career, but instead to study agriculture. Lindsay now has a job with Ioka Farms in Oregon and loves it.

Another example is Glasgow native Ailish Ross (Pers. Comm, 2017), who had never been on a sheep farm. On drives through the countryside, she loved seeing sheep in fields and had an urge to be out working with them. Ailish went on to study agriculture — still with no on-farm exposure — and now works for The British Texel Sheep Society and helps at a sheep farm in her spare time. Ailish eventually wants to have a full-time farm job.

Surely, the industry can use examples like this to entice more young people.

2.6 Lifestyle

The lifestyle that farming provides is usually one of the first things mentioned when asking people what they love about their job. Things like freedom, flexibility, fresh air, working with animals, passion, family oriented, being your own boss, and not stuck in front of the computer are just a few examples. It can be a unique and appealing career option to many people.

Michael Dolan (Pers. Comm, 2017) and his partner, Chloe (having chemistry and engineering degrees, respectively), decided to give up on their original plans and take over Michael's parents' farm Seven Seeds in Wisconsin, USA. The reason behind this was purely lifestyle. They liked working together outside, being their own boss and not having to commute every day to an office. They now have a value-added farm store selling meat, eggs and vegetables.



Figure 3: The author with Michael Dolan and his partner Chloe at their farm 'Seven Seeds'. Wisconsin, USA. Photo: Author

An even more extreme example of this was at a tea farm in Japan. Satomi Takayanagi (Pers. Comm, 2017), a young female in her 20s was spending most weekends working there to escape her weekday office job in the big city of Osaka. Satomi was exposed to the opportunity on family holidays to the area as a child. There is a shortage of help on the farms and she loved the therapeutic aspects of working there. It just did not pay enough. Satomi said she would much rather be farming than sitting in a cubicle but did not know how she could make it work full time.

There is a desperate need for young Japanese farmers. Half of current Japanese farmers are over the age of 65 (Campbell, 2012). In a bid to address the shortage, JA, the monopoly farmer service/representative/distribution/marketing/lobbying body, have started a scheme to give away abandoned farmland to young people (Yoshihiko, Pers. Comm, 2017). Unfortunately, this program has had limited success so far.



Figure 4: Takayanagi Satomi (middle) harvesting tea. Wazuka, Japan. Photo: Author

2.7 The Environment

As stewards of more land than any other non-government group in the world, farmers, more than anyone else, can have a positive environmental impact. According to the World Bank (2015), 37% of all land is classed as agricultural, with forested areas second at 30%. In Australia, this proportion is even more, at 51% (ABS, 2017). This can be an attractive aspect for young job seekers looking for a career that can make a difference to the world. It is also a selling point to communicate to the public.

Yoshitaka Uchida (Assistant Professor, Hokkaido University, Pers. Comm, 2017) grew up in the city of Tokyo. He also did a small stint in the Brazilian Amazon, when his father held a job revegetating rainforest. Although he was upset at seeing ten times more rainforest being destroyed each week than what they were re-planting, he realised that the farmers doing the logging were working to feed the world. From then on, he decided he wanted a career where he could have a positive impact on the environment, but also feed the world. As Japan did not provide any practical agricultural university courses (refer to the Education section of this report), he moved to New Zealand for eight years. He is now back in Japan and an expert on the nitrogen cycle, teaching farmers about pasture management, soil health and improving productivity sustainably.

Wool has an advantage of being a sustainable, biodegradable, natural and renewable fabric (especially when compared to synthetics that dominate the worlds clothing industry) (Russell, 2011). This can be a positive selling point for the industry. It is predominately produced on

pastures and when managed properly, helps improve grassland ecosystems and provides a large carbon sink to help mitigate climate change. Good grazing management can improve production at the same time as increasing carbon sequestration (Conant et al, 2001). Over the last 20 years, agriculture has had the biggest impact of any Australian industry in reducing greenhouse gas emissions intensity, providing a huge 63% reduction (National Farmers Federation (NFF), 2017).

2.8 Telling the Story

Telling the story of a farm, or the industry in general, can be used as an effective marketing technique ('knowing where your food and fibre comes from' is a fast-growing trend). It also helps show off the positive things about the industry, making it a more attractive career path, whilst also building community trust. This still has a long way to go. Currently, 83% of Australians describe their connection with farming as 'distant' or 'non-existent' (NFF Poll, 2017).

Sayings like "paddock to plate" are growing. An example of this is Terasaka Melon and Asparagus Farm (Terasaka, Pers. Comm, 2017) in Hokkaido Japan, where they are marketing their own vegetables with 100% internet sales sent through the post. Melons are their main crop. This marketing approach garners them ¥2,700 a melon. The market price is ¥600. They are now the top Google search result for melons, asparagus and potatoes in Japan and attribute their success to selling an experience (a true sense of connection to the farmer, through social media like Facebook) and not just a product.



Figure 5: Yuichi Terasaka with his asparagus. Hokkaido, Japan. Photo: Author

Telling the story is a strong tool in counteracting the growing negative image of animal agriculture. One example is the anti-big corporation sentiment in the USA, which arguably has one of the worst corporate farming images. Yet 97.6% of USA farms are family owned and produce 85% of the country's agricultural products (USDA, 2017).

Telling the story can go a long way towards rebuilding trust and combating misinformation. Deanna Lush provides one solution in her Churchill Fellowship report (Lush, 2017), suggesting Australia needs to set up a cross-commodity organisation with the sole purpose of building trust in agriculture. This would encourage positive and proactive strategies when dealing with anti-agriculture groups and would be better resourced and more effective than fragmented groups. Maintaining the social license to farm could be one of the industry's biggest challenges going forward.

Japan, in general, is very good at telling the story behind its food. A famous example is Kobe Wagyu beef. At auction, carcasses are sold individually after a pre-auction inspection and detailed grading is done, focusing especially on the meats marbling. A TV screen shows a photo of each farmer, as well as their details and description. Buyers can then sell their final product to customers with full traceability and a great story. Because of this, the top line of carcasses sell for around AU\$44/kg or \$20,000 a carcass. When visiting a high-end supermarket in Tokyo, one of the farmers shown at the auction had their beef and story on the shelf, with the best cuts selling for \$850/kg. This information also flows through to restaurants. At the Oriental Hotel in Kobe, meals are cooked in the middle of each table, while telling the full story behind the food. The time, care, skill and precision put into every aspect of the cooking and presentation is meticulous. It turns eating into an experience, while building respect for farmers and where the food comes from.

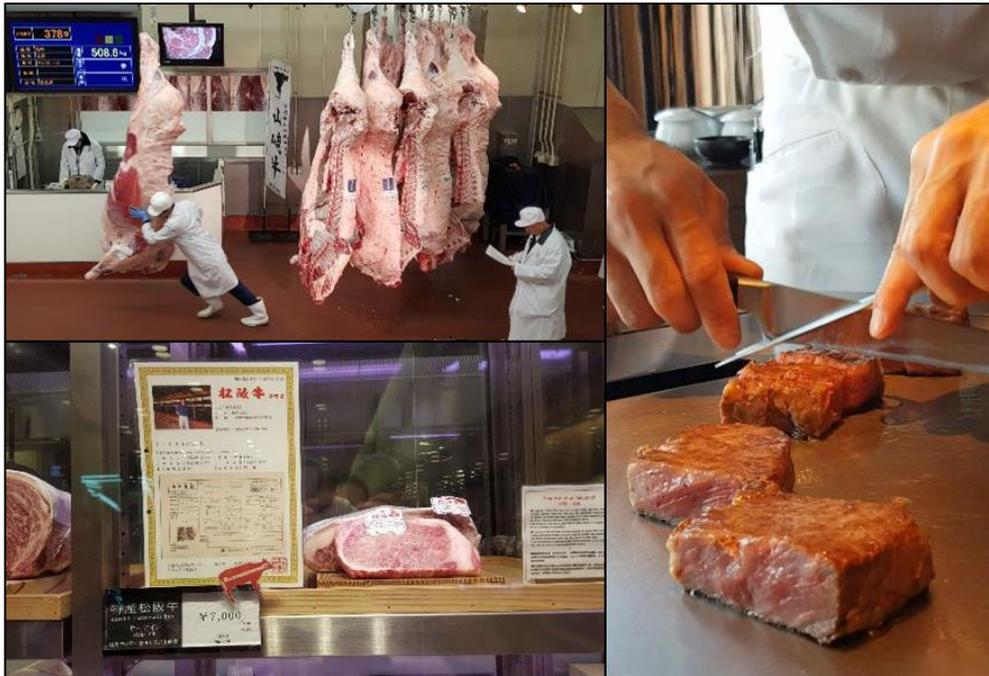


Figure 6: The Kobe Wagyu beef supply chain. Kobe, Japan.
Top: Carcass auction, Bottom: Supermarket display, Right: Oriental Hotel Restaurant.
Photo: Author

2.9 Online Presence

A great way to tell the story and improve the image of the sheep industry is online, especially through social media. These platforms, such as Facebook, Twitter and Instagram, are far-reaching, personal and provide a captive audience. There are many examples of people in the sheep industry who are already doing this. Pálína Axelsdóttir Njarðvík from Iceland has over 33,000 followers on Instagram (@farmlifeiceland). The level of engagement on her photos is impressive and provides her followers with a personal viewpoint of a young female sheep farmer in Iceland.



Figure 7: Pálína Axelsdóttir Njarðvík's (@farmlifeiceland) Instagram page

Social media, when done right, appeals to a younger audience and can show off the ‘cool’ side of agriculture. The Red Shepherdess in England (@redshepherdess), Chantel Renae Photography (The Truth About Wool) and George the Farmer, both in Australia, are just a few other examples. With more industry backing, these types of media could play a larger role in improving the image of the sheep industry.

2.10 Early Exposure

A huge factor in creating interest in agricultural careers is exposing people to farming at a young age. Aedin Quirke (Pers. Comm, 2017) did not grow up around agriculture and studied IT at university. After visiting her boyfriend’s farm multiple times, she decided she enjoyed agriculture more than IT. Aedin quit university and got a job on a dairy farm. She is now extremely passionate —even looking at cows on her phone over a coffee break. Aedin said working with animals was by far the highlight, and if it was not for her partner, she would have not known about the job opportunities in agriculture.

John Alvis (Pers. Comm, 2017), a large dairy farmer and cheese maker in England, at Lye Cross Farms, has around 35,000 school children visit annually, through their FarmLink program. The aim is to show students the full process from grass to final product. In his experience, many people, and their children, are largely uneducated about agriculture. In one case, he suggested following wool from paddock, to shearing, right through to a jumper. A teacher declined such a demonstration, worrying about children’s reactions to a sheep being killed, although sheep do not need to be killed to harvest wool.

There are many other programs that bring children onto farms. In the United Kingdom (UK) there are programs such as FACE (Farming and Countryside Education), along with their partner, LEAF (Linking Environment and Farming) who together began an annual Open Farm Sunday event. Open Farm Sunday has grown into a weekend in which farmers from around the UK open their gates and show the public around their farms. It attracts mostly families with young children, many of whom have never stepped foot on a farm before. In 2017, they had over a quarter of a million visitors to farms.

Paulo Rigolin (Pers. Comm, 2017), from Alltech, Brazil, believes agriculture’s future lies in educating children and bringing them onto farms at an early age. Mugioto Bakery, in Japan, brings more than 5,000 children (in their words, ‘future customers’) into the bakery every year for pizza classes and education of the bread supply chain. They also take them out to the farms

supplying their wheat. Their hope is that the excitement of playing in the wheat fields translates into lifelong memories.

Not all children (especially those in large cities) are able to participate in on-farm programs. An alternative solution modern technology can now provide is 'virtual farm visits' either through face-time with farmers or online tours. FACE and MLA are already doing this. Recently virtual reality technologies are starting to provide even more interactive and realistic options in this space.

Nutrien (one of the world largest agricultural supply companies) had a booth at the Calgary Stampede in Canada teaching young kids about agriculture and food production. It provided an interactive display with games, as well as educational information. One of their major projects is a phone-based game called 'Journey 2050' and the newly developed 'Farmer 2050.' These are Farmville-type games with a realistic and educational approach. The original has hit the top 25 in educational apps for Apple and includes profiles of real farming families. They have virtual reality plans to bring kids on farm without leaving the classroom and have three educational vans that travel around the USA to schools (Verhaeghe, Pers. Comm, 2017).

Not only do these strategies show children where food comes from and provide them with possible career paths, it engages them.

2.11 Making Agriculture Cool

In Trinidad and Tobago, Alpha Sennon (Pers. Comm, 2017) is working to create 'agri-COOL-ture'. When Alpha asks a gathering of school children what they want to be when they grow up, he receives the typical answers: firefighter, doctor, sports star and police officer — but not farmer. He then asks them to raise their hands if they think farming is a cool career choice. No one raises their hands. Alpha and his community run an organization called WhyFarm. They have created an agriculture superhero named AgriMan, to get kids excited about where their food comes from and to teach them the basics about farming.



Figure 8: AgriMan teaching children about agriculture (Alpha Sennon top right). Siparia, Trinidad and Tobago. Photo: Author

What happens next is nothing short of an amazing transformation when AgriMan enters. The children focus on every word. They excitedly participate in a practical on how to plant and look after seedlings, and fight to answer questions, with the hope of winning one of AgriMan's comic books.

George the Farmer is a similar concept in Australia and is achieving similar results. Each are tailor-made to suit the local cultures well. Instead of AgriMan's distinctly Caribbean style, George is very much a 'true-blue Aussie', and they both have female counterparts.

Chapter 3: Education (Developing)

Now that people may be thinking about agriculture as a positive, interesting and a potential career choice, what next? How does the industry get those people who are interested in agriculture to pursue it further?

3.1 Providing Clear Study Paths

The sheep industry needs to have clear career paths for a range of personalities and career aims. When being asked to speak at a high school, the author was told his perspective would be beneficial to a couple of the 'less study inclined students'. While these students could have a role and potentially bright futures in the sheep industry, they are only a small segment. Agriculture is continuously becoming more focused and reliant on technology, business and science-based skills. It is going to need more people confident in these areas to help the industry move forward.

When visiting Dean Atsushi Yokota and Yoko Saito (lecturer in Agricultural Economics) at Hokkaido University, it was clear few Japanese young farmers go to university. As mentioned, Yoshitaka Uchida chose to study in New Zealand for eight years rather than Japan. Older generations of farmers do not see the need for higher education or technology. University programs reflect this sentiment and do not typically offer agricultural study paths for non-academic careers. The effect of this is stark. Japan has one of the oldest agricultural demographics in the world (Yoshitaka, Pers. Comm, 2017).

In many industries, such as construction and healthcare, there are clear certifications needed (or are at least held in high regard). This not only helps ensure new entrants are prepared for their first job, it ensures they are also more attractive to employers. It improves things like OH&S and best practice production standards. Harry Hall (Pers. Comm, 2017), owner of Hall Hunter, producer of 13% of the UK's berries, said they have to re-train all their new college graduate employees, as a stand-in for the education they were meant to have. The result is that they have a high staff retention rate, because of the in-house training program and management succession plan. They often send their up-and-coming employees overseas to improve their abilities.

3.2 Study Options

Getting education right across the spectrum is important to ensure not only a range of people are attracted to study agriculture, but they come out the other end with a high level of job-ready skills. Recommendations for of a full spectrum of study options are:

- **Primary School** - exposure to agriculture within curriculum and as a career option.
- **High School Certificate** - exposure to agriculture within curriculum. Finishing school ready for agricultural work.
- **University Entrance Score** - studying agriculture at school and still qualifying for university.
- **Vocational Education** – providing certified job-ready qualifications.
- **Vocational Diploma** – providing next level up certified job-ready qualifications.
- **Bachelor’s Degree** – providing higher-level education for future agricultural business and industry leaders.
- **Postgraduate Degree** – for research, extension and academic industry roles.

3.3 School Age Education

While many schools do not provide opportunities to study agriculture, there are many programs around the world (some already mentioned) that provide great templates of how to improve this.

Sam Stevens (Pers. Comm, 2017) is a full-time high school teacher, who, as part of his role, has students out on his farm two days a week. One day is for year 11 equivalent and the other, year 12. The subject goes towards getting a high school certificate but does not provide points for university entry. The program gets students outdoors and offers a practical way to learn safety requirements and perform all the typical sheep-farm jobs. The students seem to enjoy it and were all talking about a future in agriculture, regardless of their backgrounds.



Figure 9: Sam Stevens teaches year 11 students about tractor safety on his farm. Otago, New Zealand. Photo: Author

Chris and Ronda Schauer (Pers. Comm, 2017) of North Dakota, are heavily involved with 4-H and FFA (Future Farmers of America). Usually, 4-H starts in primary school, with children continuing with 4-H or moving on to FFA in middle/high school. Chris believes getting children involved with agriculture at the ages of 7-14 is the most effective time. Chris and Ronda's work allows town kids to come to the communal barn and raise their own animals. They grow pigs, sheep or goats and eventually show them at local competitions. They also have the option to breed and sell them, keeping the profits, and essentially running a micro business. It provides an introduction to farming, business management and budgeting, with a strong support network to coach them along the way. The children take in turns feeding and doing chores throughout the week with a schedule.

It was impressive to see what Chris and Ronda are doing at a large scale at the California State Fair, a huge show and sale for 4-H and FFA youth, ranging from 7 to 20 years old. A great example of how to expose young people to sheep and livestock. However, there is a downside. The competition has become so intense (mostly between parents) that sheep were being bred for the sole purpose of winning the show. It has taken them a long way from education and the realities of sheep farming and has created some ugly aspects, such as surgical tail docking. It is not favourable that winning animals must get drug tested and some families spend thousands of dollars trying to win. Having practices and animals that are not even a reality of sheep farming on 'show' to the public has the potential to do more damage than good. It

teaches children the wrong things about agriculture and has tarred what (as seen with Chris) is an amazing program.



Figure 10: Show wethers at the California State Fair. Sacramento, USA. Photo: Author

The South Australian Sheep Expo (Pers. Comm, 2018) is a similar event in Australia for the same age groups. While it is only a few years old, it has grown to over 100 students. This program does not include a student's own sheep competition (or parents) but focuses on industry education and develops a competition around that. It includes a range of sessions, such as wool classing, careers panels, ram selection (both visually and with breeding values) and sheep handling. While still in its early days and nowhere near as big as some of the USA programs, the concept seems solid.

Leanne Woodhead (Pers. Comm, 2018) is the New Zealand Young Farmers Southland and Otago manager. She does a lot of work with schools and has active groups with great participation rates. These school groups run committees with leadership positions, structured meetings and fundraising goals to pay for activities. Further leadership training is also available. She said one of her biggest challenges is getting past the segregation of agriculture in schools. It is hard to present it as a career option. In fact, she makes a point not to wear the Young Farmers shirt, to get more traction. Leanne is pushing to make agriculture part of the economics, business, science and mathematics curriculum. She believes there is an opportunity to show that farming is more than just on-farm physical work. The UK National Federation of Young Farmers Clubs is also doing promotions along this line. Their

#MoreThanTractors campaign shows off the vast range of career opportunities within agriculture (Palmer, Pers. Comm, 2017).

Making sure that students can study agriculture and still get points towards university acceptance is an essential aspect of making this happen. Kate Heinrich (Pers. Comm, 2017), a year 11 student in South Australia, was not able to study agriculture (her favorite subject), because it would not count towards her entrance score into university.

3.4 Tertiary Education

As mentioned, it is important to make agriculture more professional. According to Yolène Pagès (Pers. Comm. 2017), whether it is university or vocational studies, there must be a minimum of a one-year tertiary certificate to become a farmer in France. The most basic certificate has agronomy, animal science and accounting. It makes farmers treat their career as a profession. In the old structure, it also required students to spend six months doing an apprenticeship at least 60 kilometers away from their home to gain some outside experience.

Telford College in New Zealand has a vocational education program for post-high school (16 years and older) students. The standard certificate is one year and provides all the practical skills for livestock farming, including dog training, welding, shearing, weed identification, small engines, machinery use and budgeting. It is structured as 33% practical on-site, 33% theory and 33% out on farms. They provide out-of-class tutors for any students struggling with reading, writing or mathematics. An impressive part of the program is that each student does a week placement at up to 12 different commercial farms. The aim is to visit a range of operations and focus on learning from the farmer, rather than working for them. There are about 80 farmer participants and students say it is the highlight of the course. It is a self-funded program costing NZ \$4,000 a year, plus \$10,000 for board, with most students choosing to board. There is an option to do a second-year diploma that provides mostly theory for farm management or industry work. The college has a post-study job success rate of over 90%. The comment from Executive Officer Lisa Snell (Pers. Comm, 2018) being Telford has a great reputation and the industry has more jobs than graduates. Marcus Oldham is a similar example in Australia, but there is a growing gap as agricultural colleges are now few and far between.

3.5 Post Graduate and Extension

The sheep industry will need a growing amount of research and extension professionals as technology improves and farming is required to become more innovative (Eadie et al, 2012). This can provide a great career path for people from outside of agriculture.

Dr Alison Crane, Kansas State University (Pers. Comm, 2017), had no exposure to sheep as a child, but she wanted a career with animals. After working with the university beef unit whilst studying agricultural science, she was asked to fill the vacant position in the sheep unit. She loved it and decided to change study paths and pursue a career with sheep. Alison went on to complete a masters and subsequent Ph.D. in sheep nutrition and reproduction. Now, she works at Kansas State University, teaching and providing extension services for the region's farmers. Her passion is translating scientific findings into useable information that is commercially practical.

According to Alison, there is a big extension gap in USA due to a lack of private consultants. Her biggest hurdle was the mindset of some farmers dealing with a scientist, who is also female, and has come from a non-sheep background. A big reason why Alison is successful is due to her previously completing a great postgraduate program at North Dakota State University, Hettinger Station. It has a commercial scale farm that provides students with the opportunity to gain on-farm practical skills, not just academic. A key to their future farmer communication and extension skills is having a lot of involvement with producers.

Chapter 4: Career (Retaining)

Chapter two and three explored how to attract and develop great people, but how do they not only stay in the industry but succeed and help the industry move forward? This chapter will focus predominantly on on-farm options as this area has the biggest hurdles, especially for young people without family farms.

Christoph Weimar (Pers. Comm, 2017) grew up in the German city of Kiel. Originally looking at environmental studies with an aim to work outside and with animals, Christoph eventually stumbled across and chose to study agriculture. To make sure it was the right choice, he spent a gap year working on farms before university. While the journey so far has exceeded expectations, Christoph is concerned it will be difficult to manage his own farm because land prices, capital investment and rent are high in Germany. A lab-based research career is now looking more likely. Christoph is not alone, however, there are many ways to farm sheep other than owning land. The remainder of this chapter will look at a range of real on-ground examples of options that have been successful.

4.1 Management Opportunities

While most sheep operations are still family owned, there is a gradual trend towards bigger family farm or corporate setups (Productivity Commission, 2005). It provides opportunities for people who want a farm management career but do not have the financial situation to buy or lease land. Large businesses can support specialist management positions. Mount Linton, in New Zealand, is one example. They have genetics, arable, livestock and hill country managers. They also separate their 22,000 hectares and 43,000 ewes (as well as a large cattle herd) into smaller blocks, each with its own young manager. This provides responsibility and growth opportunity for young people while still getting guidance from the general manager, Ceri Lewis (Pers. Comm, 2018). With this system, Ceri believes that staff retention is kept at a good level.

Sion Morgan (Pers. Comm, 2017), who grew up on a small family sheep farm in Wales, did not see a future in the farm. It was struggling to support his parents, let alone him, and even though he had a passion for sheep, he went on to become a qualified electrician. A working holiday trip to New Zealand and subsequent job at Mount Linton (mentioned above) changed his mindset. He decided he could be a full-time farmer if he focused on production efficiencies. By making sheep farming more professional, Sion believed it could become more viable than

the traditional farming models back home. He now manages the sheep flock at a large multispecies farm in Scotland. The business had recently converted from a traditional Scottish farm to (in his words) a progressive New Zealand type of operation.



Figure 11: Sion Morgan. Scottish Borders, Scotland. Photo: Author

Other examples are Jac Hughes (Pers. Comm, 2017) in England and James Cochrane (Pers. Comm, 2017) in Scotland. Jac, when starting university, was offered a flock management position at a large estate. He thought it was too good of an opportunity to pass up, but still wanted to finish university, so found a way to do both. Now, currently in his 20s, he has successfully finished university and is expanding the flock. He will take over larger parts of the estate as current leases finish up. His father has tenanted one of the lease properties for many years, so Jac has a strong emotional attachment and is looking forward to it remaining under family management.

James Cochrane is also managing a property in the area he grew up. He got a farm hand opportunity straight out of school. Over time, he has moved into the management position. He said he never wanted to do anything else. It provides an opportunity for him to be a long-term farm manager, even though he does not have financial backing.



Figure 12: James Cochrane. Scottish Borders, Scotland. Photo: Author

4.2 Professional Development

Providing employees with the opportunity to further develop skills and progress in their career is a great way for a business and the industry in general to retain them. For example, Dunbia lamb processing plant in Wales has a program for university graduates looking to move into the sheep industry. They take 13 graduates who spend a month in different parts of the business over a year. This gives each graduate experience across the whole business structure and allows them to travel to different plants and offices across the country (Harvey, Pers. Comm, 2017). Some of the graduates said the program structure gave them a wide range of experience and a flexibility of options. Of the 13 graduates, only five had come from farming backgrounds; two had history degrees. They all saw a great opportunity within the industry, because many of the managers are near retirement without enough mid-career people under them to take over.

Another interesting graduate-type program was at the national trust holdings in Snowdonia, Wales. They offer a one-year management tenure of one of their farms to an aspiring young person in the industry. It provides them the freedom and responsibility of management, with the help of a knowledgeable mentor at the neighbouring property. The current holder of the tenure is Teleri Fielden (Pers. Comm, 2017), who enjoys her role, especially working with sheep, her dog and the scenery. She has been active on TV promoting her love of sheep farming on BBC. Caryl Hughes (Pers. Comm, 2017) formerly held the same position and has since moved on to lease her own land. She has also gone on to participate in the NSA (National Sheep Association) Next Generation Ambassadors program, which provides a full picture of

how the industry works over five sessions throughout the year, from on-farm practical skills, right through to meat processing. She found it to be a great further development for her career in the sheep industry.



Figure 13: Teleri Fielden with her mentor, Arwyn Owen. Snowdonia, Wales. Photo: Author

Ryan Mahoney (Pers. Comm, 2017), of Emigh Livestock in California, a 5,000-ewe operation with a 20,000 head lamb feedlot, is good at providing employees with an exciting career path and opportunity for growth. He does this by giving staff responsibility and helping them with further learning. One example: he has flown one of his managers, Jeffrey Clark, to Australia for the Lambex Convention in 2018. After attending Lambex in 2016, Ryan saw the value of the event for professional development. He wants to send a different member of his team every Lambex. By helping his employees develop their skills and their careers, Ryan is not only retaining quality managers, he is improving their overall performance and job satisfaction.

4.3 Leasing Land

Leasing provides a good way for someone to run a sheep farming business without the financial backing required to purchase property. Rhidian Glyn (Pers. Comm, 2017), in Wales, is a young farmer who started out working full-time for a farm supplies company. He began leasing small farms on the side and slowly worked his way to a position where he can take on a large property. His most recent lease is for ten years on 530 acres of improved grassland and hill country. This lease has allowed him to finally become a full-time sheep farmer. His aim is to buy land at the end of the lease.



Figure 14: Rhidian Glyn on his rented property. Machynlleth, Wales. Photo: Author

Josh Braid (Pers. Comm, 2017) has a similar story to Rhidian. Starting from scratch, he has slowly built his business by leasing small plots of land and working as a shearer and contractor. He has recently taken out two ten-year leases on separate properties, one in Wales, of 400 acres, and one in England, of 300 acres. To expand his business, Josh has recently taken out a loan to custom-feed pigs. With a three-year low-interest loan and the contract for feeding, he will pay off the debt in three years and break even in 18 months. Having ten-year leases allows him to invest in new sheep yards at both properties, with an aim to double the number of ewes overall. He has also taken on a young farmhand to build into a management role, which is yet another great opportunity for a young person starting out in the industry. Josh plans to give him most of the responsibility but will act as a mentor along the way.

Robert and Jaime Irwin (Pers. Comm, 2017), of California, own 4,000 ewes and background 3,500 lambs for a nearby feedlot. They operate sheep across a 200-mile range, making it as much of a logistics business as a sheep operation. Theirs is a model for how you can start with nothing and turn it into a decent size sheep operation in only seven years. Originally, they bought US \$30 ewes, got the lambs from them, then sold the same ewes for \$30. Repeating this in the following years and gradually increasing their numbers. They get paid by landowners to graze, not the other way around. Due to the terrible fire conditions in California, landowners are required to remove dead grass or pay a large tax bill. Paying the Irwins to graze their vacant land is cheaper. As this is only seasonal, the sheep are moved around. They are paid US \$35-40 per acre to graze vineyards and orchards, which provides a chemical-free weed

cleaner and is cheaper and easier for the vineyard owner than spraying. The government also allows them to graze a public bird sanctuary in the summer when the birds have migrated. This fills another feed gap with huge amounts of grass, keeps weeds under control and spreads endangered native grass seed. Robert had been working off farm shearing and putting money back into sheep, slowly building the ewe flock. He is shearing nowhere near as much these days with the business providing a sustainable income.



Figure 15: Robert Irwin unloading sheep at a public bird sanctuary, California Photo: Author

While already happening to some extent, there is an opportunity for rising young people with energy and skills but little capital to do this in Australia. For example, short term leasing and share farming on crop stubbles or flash grazing (2-3 weeks) of winter crops. Mac Stewart (Pers. Comm, 2017) in Oregon, USA, explained how sheep provided a complimentary business to the large grass seed industry there. Grass seed farmers did not want the hassle of running sheep but were happy for people to run them on their property, because it provides extra lease income without the extra work. Importantly, it provides opportunities for sheep farmers who do not own their own land.

4.4 Alternative Finance Sources

Josh Braid (Pers. Comm, 2017) mentioned his biggest constraint was accessing finances because livestock are not classed as an asset by the bank in the UK, making it difficult to secure a loan when not owning any land. Alternative ways people have secured finance without assets behind them are seen in the examples of Rollo Deutsch (England, Pers. Comm, 2017)

and François Marfaing (France, Pers. Comm, 2017). Rollo started with nothing and wanted to become a sheep farmer. He leases land on one-year agreements and managed to secure a loan from a wealthy neighbour, who saw potential in him. He has managed to grow to 600 ewes in only three years. François managed to get a loan without any asset backing by securing a long-term contract to supply corn seed, of which the bank was happy to loan against. He has now paid off his farm in 15 years and runs sheep in rotation with his seed-growing business.



Figure 16: Rollo Deutsch with his ewes at his rented property, Cotswolds UK. Photo: Author

In Israel, SOSA (South of Salame), a platform for large corporations and investors to interact with innovators and startups, provides an opportunity to connect possible investors and sources of finance to people looking to start a business (Goldberg, Pers. Comm, 2017). There is a lot of investment happening in the agricultural technology space in Israel. One of the participants is the Israeli Government, who also has a startup investment scheme in which the government acts as a guarantor, allowing startups with no equity to secure their first loan. This is done through a selection committee looking to identify quality innovations and possible future businesses for the country's economy. There is even an option of a government loan that only gets paid off as a percentage of income when the business starts making money (similar to Australia's HECS-HELP student loan scheme). This is providing an injection of money for young people with ideas and enthusiasm to start their businesses (Wislizki, Pers. Comm, 2017).

4.5 Off Farm Income

As with Rhidian and Josh, it is obvious off-farm income can be very valuable in building a sheep-farming enterprise. Eyjólfur Ingvi Bjarnason (Pers. Comm, 2017) is an eighth-generation sheep farmer in Iceland running 600 Icelandic ewes. He is also the sheep production consultant for the Icelandic Department of Animal Husbandry. Currently, it is hard to make a profit as a sheep farmer in Iceland due to terrible lamb prices (exchange rate being a major factor) and the high cost of wintering ewes. Because of this, Eyjólfur maintains his off-farm role, allowing him to continue his farming passion while being less susceptible to the current poor prices through his off-farm income.

Jamie McCoy (Pers. Comm, 2017) uses off-farm income to expand her farming operation. She works as an industry extension manager, which has helped her and her partner, Deian, purchase his family's dairy farm. It has also allowed Jamie to follow her passion and lease some land to run a flock of sheep. In addition, they have recently purchased a laundromat to provide more off farm income.

Jean-Charles Vayssettes (Pers. Comm, 2017) is a sheep dairy farmer in Aveyron, France. He studied agronomy before returning to the family property. He loves the lifestyle and freedom farming provides, especially financial autonomy. Due to this he wanted to find other sources of income, especially value-added options. Jean-Charles now has a microbrewery that makes beers from his farm's own malted barley, further growing his business's income.



Figure 17: Jean-Charles Vayssettes, Left: in the sheep milking parlour, Right: With his craft beer. Aveyron, France. Photo: Author

4.6 Share Farming

Share farming offers yet another way for young people to get into sheep farming.

Matthew Jackson (Pers. Comm, 2017) grew up in Manchester, UK. Holidaying as a child near his current home, he met and helped a local farmer with his milking. The farmer liked the company and was great at showcasing his way of life. As soon as Matthew could get out of school, he applied for a job at another nearby dairy. He has since travelled to New Zealand and Australia a few times to work and gain experience. On return, he started leasing small amounts of land and buying stock. Starting with a handful, he doubled the number of head each year. Soon, he had a herd of heifers large enough to start his own milking operation. Another farmer offered to provide the land and capital if Matthew provided the cows and labour. They split the profits, and this has worked extremely well. Matthew is now employing other young people who want a start in farming or need a change in life situation, giving them a similar opportunity to what he was given. His aim is to run three farms with the same setup soon, employing even more young people.

Phillipe Talbardel (Pers. Comm, 2017), a sheep farmer in France, began a partnership with another farmer and a young man with no capital. This partnership started 20 years ago and has become very successful, providing flexibility and lifestyle freedom. They have daily meetings over a coffee to keep each other updated and to make the major decisions. Each runs their own department: meat breeding, sheep dairy and finishing. The advantage of the system is it provides the two landowners more flexibility and scale, whilst giving the young person a way to become a sheep farmer with no financial backing.

4.7 Generational Farms

Young people coming into a family business want responsibility and flexibility, according to succession planner Sian Bushnell (Pers. Comm, 2017) in Wales, which sheep farming can provide. There are many ways to achieve this, but she said it takes mindset, creative thinking and communication. Finding ways to separate the business from personal life are important. Things like scheduled business meetings, living apart and giving each other privacy, all help in this area. Sian recommended getting the next generation off farm for a while before joining the business. Attaining outside skills and experience are important and can assist someone in actively choosing to come back to the family farm rather than falling into it.

The Iverson family (Pers. Comm, 2017) in Oregon does this well. The innovative farm is run by multiple brothers and their children. They have put a rule in place that any children wanting to join the business must first get a university degree, plus two years off-farm work experience. They believe this is key in making sure the next generation actually want to be part of the business. It also provides the business with a wide array of outside knowledge and experience.

Another farm in Oregon (Advanced Ornamentals) has given the next generation a lot of responsibility through early management positions. Kelly McKay (Pers. Comm, 2017) is one of three siblings, aged 22 to 26, who are all active in the business. This opportunity and trust seemed to be a major reason for all three siblings choosing to join the business after university. Stuart Mitchell (Pers. Comm, 2017) in Scotland is an extreme version of this, with his parents handing him 51% of the business whilst he was still in his early 20s. His passion and enthusiasm gained from such an opportunity was impressive.



Figure 18: Stuart Mitchell on his farm. Scottish Borders, Scotland. Photo: Author

4.8 Mentoring

Mentoring can provide a key source of communication between older generations in the industry and younger people looking for knowledge and opportunities. At a meeting at Landbúnaðarháskóli Íslands (Agricultural University of Iceland), lecturer Ólöf Ósk Guðmundsdóttir, Iceland Young Farmers Organisation (Pers. Comm, 2017), said there is great interest from young people to work in the sheep industry. The issue is bridging the gap

between an aging demographic of farmers and the young people wanting to enter the industry. Mentoring could provide this bridge. Farming Connect (a government organization in Wales) has a program where mentors are matched with young people interested in farming. Farmers provide the land and advise; young people manage it and do the work. This offers a transition into retirement, whilst still seeing their farm continue, and gives younger people a farm management opportunity they might not have had otherwise (Davies, Pers. Comm, 2017).

Emily Ritchie, Youth Leadership Coordinator at the Canadian Cattlemen's Association (Pers. Comm, 2017), is running another mentoring program called the Cattlemen's Young Leaders program (CYL). This program focuses more on skills development than business partnerships and is a great way to link up generations. CYL selects approximately 16 young mentees each year through a competitive selection process (60 applied in 2017). These mentees then have a mentor handpicked from across the industry that best suits them personally, which is sometimes a lengthy process. This hand picking ensures the participants get the most out of the program and create a strong relationship with their mentor. Funding is sourced mostly from individual corporate investors for each scholarship, which is not too different from the Nuffield Scholarship model.

Conclusion

The sheep industry in Australia is currently in a great position with opportunity to grow. Increasing global demand for sheep products and decreasing sheep numbers globally are providing a solid platform for the future. For this opportunity to be fulfilled, the industry needs to attract enthusiastic young people with a wide range of skills. There are many ways in which to achieve this.

To begin with, the mindset of many farmers needs to change and become more positive. The industry must improve its image. A strong image and positive public perception of sheep farming will help attract good young people.

There is a growing need for a range of skills in a range of industry positions. To fulfill this, a full spectrum of clear study and career paths needs to be presented. The idea in schools that agriculture is for 'less study inclined students' needs to change. The future of agriculture requires the best and brightest.

Financial constraints are one of the biggest hurdles for getting into the sheep industry, especially for people who want on-farm businesses. Thinking outside of the box can provide solutions. It is no longer necessary to own land to be a sheep farmer, this mindset must change. Encouraging connections between generations can go a long way towards providing options. Forms of finance, other than typical bank loans, can play a role in helping break the financial entrance barrier. An interest free start-up loan program could be an option.

There are always unique factors that make a move into the sheep industry challenging (as with any industry), but hopefully, this report has provided some ideas and examples of what can and has been successful.

Recommendations

- The sheep industry needs a new image. A major factor in this is the mindset of many farmers. Positivity is important, rather than publicly playing victim. The current state of the industry should be celebrated as it compares well against most other industries.
- Sheep farming is, and should be, promoted (through joint industry marketing) as being 'cool'. It can provide fulfilling careers through its positive social, environmental, and economic opportunities i.e., the ability to work with animals and improve the environment.
- Exposing agriculture to young people early is vital. Presenting it as a career opportunity in schools alongside firemen, police officers and doctors. Social media, school programs, farm visits and technology (such as virtual reality) are examples of tools that can be used.
- Provide clear study and career paths. Agriculture needs an ever-widening range of skills; therefore, a matching range of career and study paths are required to attract and develop the right people. This needs to be formalised.
- Successful farms are run professionally as businesses, not just as farms. If a farm is run professionally, it will treat its employees properly with all the appropriate wages and perks. Debunk the myth of limited opportunities for good employment in agriculture. Programs to improve the business skills of farmers could help.
- Lose the mindset of having to own land to be a sheep farmer. There are a range of other options such as leasing, share farming, agistment and management positions.
- Forms of finance, other than typical bank loans, can play a role in helping break the financial entrance barrier. An interest free business start-up loan program (similar to Australia's university HECS-HELP student loan program) could be an option.
- Getting off farm experience, handing over responsibility and using formalised communication methods are great starting points in making generational farms more attractive and less likely to fail.
- Use mentoring as a way to bridge the gap between generations. People at the end of their careers have a lot to offer young people looking to enter or progress in the sheep industry. This could be done through a program that targets and pairs compatible participants.

References

- ABS, (2012), Australian Farming and Farmers, Australian Bureau of Statistics, 4102.0. <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features10Dec+2012>
- ABS, (2017), Land Management and Farming in Australia, Australian Bureau of Statistics, 2015–2016, Catalogue No. 4627.0 <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4627.0>
- Alvis, J., (June, 2017), Personal Communication, Lyecross Farms, England
- Australian University Rankings, (2017), Gender Balance Male-Female Ratios, Australian Education Network, Australia, <http://www.universityrankings.com.au/gender-balance-ratio.html>
- Bjarnason, E., (December, 2017), Personal Communication, Icelandic Department of Animal Husbandry, Iceland
- Blackwood, K. & Blackwood, H., (December, 2017), Personal Communication, Scotland
- Braid, J., (December, 2017), Personal Communication, Wales
- Bushnell, S., (December, 2017), Personal Communication, Wales
- Campbell, A., (March, 2018), Personal Communication, Earnsclough Station, New Zealand
- Campbell, M., (2012), Japanese Agriculture and California Opportunities, University of California, Davis, USA, http://sfp.ucdavis.edu/pubs/SFNews/95Nov-Dec/Japan_cal_opps/
- Cochrane, J., (December, 2017), Personal Communication, Scotland
- Conant, R., Paustian, K. & Elliott, E., (2001), Grassland Management and Conversion into Grassland: Effects on Soil Carbon, Ecological society of America, USA, <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/1051-0761%282001%29011%5B0343%3AGMACIG%5D2.0.CO%3B2>
- Crane, A., (July, 2017), Personal Communication, Kansas State University, USA
- Davies, E., (December, 2017), Personal Communication, Farming Connect, Wales
- Davis, J., (2017), Talking Point: Thank a farmer for a recession we didn't have. Mercury, 7th March 2017. Australia, <https://www.themercury.com.au/news/opinion/talking-point-thank-a-farmer-for-a-recession-we-didnt-have/news-story/6add0bf30de3a80175575a5d15969911>
- Deutsch, R., (December, 2017), Personal Communication, England
- Dolan, M., (June, 2017), Personal Communication, Seven Seeds Farm, USA
- Eadie, L., & Stone, S., (2017), Farming Smarter, Not Harder: Securing our agricultural economy. Centre for Policy Development, Australia, https://cpd.org.au/wp-content/uploads/2012/10/cpd_land_report_EMBARGOED_UNTIL_1_NOV.pdf

Earle, E., (November, 2017), Personal Communication, Agri-Food and Biosciences Institute, Hillsborough, Northern Ireland

Edwards, C., (December, 2017), Personal Communication, Linking Environment and Farming (LEAF) & Farming and Countryside Education (FACE), England

Fielden, T., (December, 2017), Personal Communication, Llyndy Isaf National Trust, Wales

Fowler, L., (July, 2017), Personal Communication, Ioka Marketing, USA

Glyn, R., (December, 2017), Personal Communication, Wales

Goldberg, E., (May, 2017), Personal Communication, SOSA, Israel

Golding, C., (February, 2018), Personal Communication, Meat and Livestock Australia, North America, USA

Grandin, T., (January, 2017), From a presentation at American Sheep Industry Association Conference, Denver, USA

Green, R., (May, 2017), Personal Communication, Australian Consulate, Japan

Guðmundsdóttir, O., (December, 2017), Personal Communication, Landbúnaðarháskóli Íslands (Agricultural University of Iceland), Iceland

Hall, H., (June, 2017), Personal Communication, Hall Hunter, UK

Harvey, A., (November, 2017), Personal Communication, Dunbia, Wales

Heinrich, K., (November, 2017), Personal Communication, Australia

Hughes, C., (December, 2017), Personal Communication, Wales

Hughes, J., (December, 2017), Personal Communication, England

Irwin, R., (July, 2017), Personal Communication, Chaos Sheep Outfit, USA

Iverson, J., (July, 2017), Personal Communication, Iverson Family Farms, USA

Jackson, M., (December, 2017), Personal Communication, Wales

Lewis, C., (March, 2018), Personal Communication, Mount Linton Station, New Zealand

Lush, D., (2017) To Investigate Communication, Education and Engagement Methods to Improve Understanding of Agriculture, Churchill Fellowship report, Australia

Mahoney, R., (July, 2017), Personal Communication, Emigh Livestock, USA

Marfaing, F., (December, 2017), Personal Communication, France

Martin, P., Levantis, C., Shafron, W., Phillips, P., & Frilay, J., (2018), Farm performance: broadacre and dairy farms, 2015–16 to 2017–18, ABARES, Australia,

<http://www.agriculture.gov.au/abares/research-topics/surveys/farm-performance#performance--by-industry>

McCoy, J., (November, 2017), Personal Communication, Wales

McKay, K., (July, 2017), Personal Communication, Advanced Ornamentals, USA

Mitchell, S., (December, 2017), Personal Communication, Scotland

MLA, (2018), Industry Projections 2018 – Sheep Industry. Meat and Livestock Australia. Sydney. Australia, https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/trends--analysis/sheep-projections/revised_2018-jan-mla-australian-sheep-industry-projections-2018.pdf

Moran, K., (November, 2017), Personal Communication, Ireland

Morgan, S., (December, 2017), Personal Communication, Scotland

Mugioto Bakery (May, 2017), Personal Communication, Japan

Nakielny, C., (December, 2017), Personal Communication, Wales

Nakielny, E., (December, 2017), Personal Communication, Wales

NFF Poll, (2017), National Agriculture Awareness Poll, National Farmers Federation, Australia, <https://farmers.org.au/news-updates/nff-news/new-figures-aussie-disconnect-life-essentials.html>

NFF, (2017), Food, Fibre & Forestry Facts 2017 Edition – A Summary of Australia's Agricultural Sector, National Farmers Federation, Australia, <https://www.nff.org.au/farm-facts.html?download=DOWNLOAD>

Njarðvík's, P., (May, 2018), Instagram page: @farmlifeiceland, Iceland

Ofaimme Farm, (May, 2017), Personal Communication, Israel

Pages, Y., (December, 2017), Personal Communication, France

Palmer, S., (2017), Personal Communication, UK National Young Farmers Clubs, England

Payne, E., (November, 2017), Personal Communication, Hilltop Dairies, Ireland

Productivity Commission, (2005), Trends in Australian Agriculture, Research Paper, Australia, <https://www.pc.gov.au/research/completed/agriculture/agriculture.pdf>

Quirke, A., (November, 2017), Personal Communication, Ireland

Rigolin, P., (March, 2017), Personal Communication, Alltech, Brazil

Ritchie, E., (July, 2017), Personal Communication, Canadian Cattlemen's Association, Canada

Ross, A., (December, 2017), Personal Communication, British Texel Sheep Society, England

Russell, I., (2011), Wool Production, Processing and Use - Environmental Aspects, CSIRO, Australia, <https://publications.csiro.au/rpr/download?pid=csiro:EP102882&dsid=DS2>

Sanjay Mathur, S., (May, 2017), Personal Communication, ANZ Southeast Asia, Singapore

Schauer, C., (July, 2017), Personal Communication, North Dakota State University, USA

Sennon, A., (July, 2017), Personal Communication, WhyFarm, Trinidad and Tobago

Sigurðsson, J., (December, 2017), Personal Communication, Iceland

Snell, L., (March, 2018), Personal Communication, Executive Officer, Telford College, New Zealand

South Australian Sheep Expo, (2018), <http://sasheepexpo.com.au/>

Stevens, S., (March, 2018), Personal Communication, New Zealand

Stewart, M., (July, 2017), Personal Communication, USA

Syngenta, (May, 2018), Personal Communication, Syngenta Head Office South East Asia, Singapore

Taggart, L., (March, 2018), Personal Communication, Rabobank, New Zealand

Takayanagi, S., (2017) Personal Communication, Japan

Talbardel, P., (December, 2017), Personal Communication, France

Terasaka, Y., (May, 2017), Personal Communication, Terasaka Melon Farm, Japan

USDA, (June, 2017), Personal Communication, United States Department of Agriculture, Washington DC, USA

Vayssettes, J., (December, 2017), Personal Communication, France

Verhaeghe, L., (July, 2017), Personal Communication, Agrium, Canada

Wislizki, O., (June, 2017), Personal Communication, Australia Unlimited, Israel

Woodhead, L., (March, 2018), Personal Communication, New Zealand Young Farmers, New Zealand

World Bank, (2015), Agricultural land (% of land area), World Bank, <https://data.worldbank.org/indicator/AG.LND.AGRI.ZS>

Yoshihiko, I., (June, 2017), Personal Communication, JA Youth, Japan

Yoshitaka, U., Atsushi, Y. & Kobayashi, K., (June, 2017), Personal Communication, Hokkaido University, Japan

Plain English Compendium Summary

Project Title:	Attracting and Retaining Young People in the Sheep Industry
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Objectives	<p>This report looks at key factors to attract and retain young people in the sheep industry (and agriculture, in general). The aim is to do this from a ground-up approach, using feedback from successful young people in agriculture to see how and why they have achieved their success.</p> <p>This is split into three main sections:</p> <ul style="list-style-type: none">• Attracting: How can the sheep industry improve its image to ensure it is attracting large numbers of capable young people?• Developing: How can the sheep industry help develop young people who are interested in pursuing a career in agriculture?• Retaining: How can the sheep industry get people to not only stay in agriculture, but succeed and help the industry move forward?
Background	Farmers in Australia and across the world are aging and this report looks at ways to attract and retain young people in the sheep industry.
Research	Agriculture could use a new wave of young people. The aim of this report is not to provide an academic or organisational solution to the issue, but to build on success stories and explore how, why and what is working for youth in the industry. This report features a wide range of examples and opinions of young, driven and passionate people on the ground in the sheep and other agricultural industries.
Outcomes	The sheep industry needs a new image. A major factor in this is the mindset of farmers. Positivity is important. Sheep farming is and should be promoted as being 'cool'. It can provide fulfilling careers through it's positive social, environmental, and economic opportunities i.e., the ability to work with animals. Exposing agriculture to younger people is vital. Social media, school programs, farm visits and technology (such as virtual reality) are examples of tools that can be used. Provide clear study and career paths. Agriculture needs an ever-widening range of skills; therefore, a matching range of career and study paths are required to attract and develop the right people. Successful farms are run professionally as businesses, not just as farms. If a farm is run professionally, it will treat its employees properly with all the appropriate wages and perks. Debunk the myth of limited opportunities for good employment in agriculture. Lose the mindset of having to own land to be a sheep farmer. There are a range of other options; such as leasing, share farming, agistment, and management positions. Forms of finance, other than typical bank loans, can play a role in helping break the financial entrance barrier. An interest free start-up loan program could be an option. Use mentoring as a way to bridge the gap between generations.
Implications	Hopefully, this report will provide industry with some solutions and ideas of how to attract and retain young people in the sheep industry. In addition to providing young people with some inspiration and examples of options that have worked for others.
Publications	Presentation at the Nuffield National Conference, Melbourne, September 2018