

Submission on the ANZSCO update

18 June 2021

INTRODUCTION

Queensland's Rural Jobs and Skills Alliance (RJSA) offers the following responses to the ANZSCO update discussion paper.

The RJSA developed from the agricultural sector's need to engage more with the education and training sectors, and the Queensland Government's commitment to create and support jobs across the state. Industry members of the Alliance are (in alphabetical order): AgForce; CANEGROWERS; Cotton Australia; Growcom; Nursery & Garden Industry Queensland (NGIQ); Irrigation Australia; Queensland Chicken Growers' Association; Queensland Farmers' Federation; Timber and Building Materials Association; Australian Prawn Farmers' Association; Queensland Dairyfarmers' Organisation, Tropical Carbon Farming Innovation Hub; and it is supported by Department of Agriculture and Fisheries.

The RJSA's purpose is to address mutual goals for our member organisations that focus on the attraction, development and retention of new entrants and existing workers to underpin the prosperity of Queensland's agricultural sector now and into the future.

The RJSA provides advice to government, service providers and other organisations with respect to employment, skills, industry training and workforce planning on behalf of Queensland's agriculture and related industries. Given our scope of work, our responses to the inquiry relate to Queensland Agriculture but believe they may reflect similar issues from the national perspective.

RESPONSES

The RJSA notes the tight timeframe associated with this sector-critical consultation and, as such, some stakeholders have only been able to offer limited feedback for their sector. The RJSA therefore reserves the right to provide further feedback at a later date and notes that this submission is provided without prejudice to any submission from our members or individual farmers.

Summary points:

- Many of the farm workforce demands may exist in employment categories outside of the captured statistics.
- A proper thorough analysis is needed to ensure that the industry captures accurately the number of people in the industry and the roles they perform. For the ANZSCO codes to be a true reflection of the industry, a proper in-depth analysis of occupations, the tasks they perform, and the level of skills is required. Such analysis required requires time, research and analysis. We are concerned that the level of analysis proposed currently will not be able to capture the reality and depth of roles in the industry, as it has been done in a very limited time frame.

This analysis is key as the information captured is used as the basis of analysis conducted by government and other organisations to guide policy and programs that could help or hinder the industry.

- The Agriculture, Forestry and Fisheries scope needs to be reviewed; as in the definition it excludes occupations involved in turning 'primary products' into 'secondary products'. As the Agriculture industry grows, it would be good to widen or adjust this scope i.e. Production versus manufacturing.
- The nature of farming is changing, with very few farms now undertaking single commodity-specific farming activities. This is reflected in increasing use of categories such as 'Mixed Crop Farm' (121216) which fails to provide an insight into the commodities grown or activities undertaken.
- The level of skills currently in most occupations related to agriculture need to be revised. The level of skills should also align to the Australian Qualifications Framework level. As per submission made by Skills Impact, there are a variety of AQF level qualifications within each group which demonstrates that ANZSCO Codes are no longer accurate as allocated to qualifications and that the job roles described in each qualification are no longer accurately reflected in the ANZSCO Codes.

This will help facilitate the alignment of the training qualification outcomes to be measured against employment outputs. This should also consider that training delivered in most occupations should be aligned to a cluster of occupations to allow the flexibility needed to be prepared and be able to progress and move to multiple jobs. These changes should align with the AISC (Australian Industry Skills Committee) work to ensure the quality and relevance of the national training system.

- The description within the occupations needs to be revised in depth. Starting with Farm Managers as suggested in the working paper. Farm Managers as described does not accurately describe the Farm Manager's responsibilities, which include the management of staff and operations of the business.
- Key occupations within the code are not currently identified. Since 2010 the list does not feature mid-level management occupations, such as leading hand or farm overseer, farm supervisor and other farm jobs except for owning and running the farm, which is the highest skill level. This is an issue as the shortage of mid-tier managers has repeatedly been highlighted as a skills gap in many agriculture industries from cotton to the production nursery industry.
- Another sector is the protected cropping industry which is the fastest growing food producing sector in Australia with annual growth rates averaging more than 60 percent over the past five years. Despite the high levels of automation used in the more sophisticated glasshouse environments, large-scale protected cropping requires a significant labour force, especially during crop establishment and harvest. The level of employment on related occupations in this industry is not easily identified. The current system does not recognise Production Horticulturalist or Senior Production Horticulturalist, both of which are not listed on ANZSCO.

- Similarly, the different levels of irrigation workers are not in any way differentiated on ANZSCO or even listed. Clearly, the industry has had to employ more irrigation system designers to minimise water usage in a changing climate as well as meeting new regulatory requirements. These are examples of occupations that are central to the efficient operation of this production system.
- The level of employment in most industries is currently aligned to a Level of skills 4 and above. The level of skills required for most occupations is at a higher level than what the current description indicates.
- The list is too closely linked to formally awarded qualifications. Given that most farmworkers acquire most of their skills through on-the-job practice, learning is typically incremental, socially embedded, and occurs over a lifetime, and this is to the detriment of the sector.
- The list is not updated with industry consultation frequently enough to keep abreast of changes in roles and the impact of technological and scientific advancements. Given that agriculture is an incredibly dynamic industry with research and development frequently resulting in a significant evolution of business practices, the mechanisms which establish an agricultural workforce needs to be equally agile.
- We know the composition of the labour force in agriculture has changed and continuously evolves. Diverse industries sectors are emerging in agriculture, which are not easily identified in the current industry classifications. The growing of Agricultural technology, or Agtech, is key in assisting the Australian's agriculture become Australia's next \$100 billion industry by 2030 (KPMG., 2016). The sector is evolving and is fast becoming a vital part of the industry. Other industries emerging industries are the alternative proteins, energy production, composite and organic products, agritourism, which all require labour force and currently not clearly aligned to occupations.

RJSA shares the frustration expressed by our members and by the National Farmers' Federation (NFF) at the continued reliance on ANZSCO. The current ANZSCO Skilled Occupations List has continued to be a disadvantage, because roles listed on the ANZSCO either do not exist or do not match and represent industry needs.

The classifications are not updated with industry consultation frequently enough to keep abreast of changes in roles and the impact of technological and scientific advancements. Given that agriculture is an incredibly dynamic industry with research and development frequently resulting in a significant evolution of business practices, the mechanisms which establish an agricultural workforce needs to be equally agile.

A more detailed response to the questions posed in the issues paper follows. The responses are based on consultation with industry partners:

A. Q1 and Q3 of the issues paper: Are there occupations in your industry, sector or business that are not currently accurately described or should separately identified in ANZSCO?

A paper by Nettle (2018) indicates that the dynamics of farm labour need to be considered.

Nettle suggests that much of the farm workforce demands may exist in employment categories outside of the captured statistics. This can also relate to family members and people employed casually, as migrant workers or as contractors (Nye, 2018). Nettle mentions the following roles as important in the current farm business:

- Investors (do not work on the farm – but can inject capital for labour replacing technologies through to green investment opportunities)
- Farm owners/operators and family members both paid and “unpaid”
- Farm managers (salaried, often categorized separately from employees in workforce statistics)
- Share farmers (a category sitting between ‘contractors’ and ‘employees’)
- Contractors (separate business owners servicing agriculture). An important category for farm work (e.g. 80 percent of Australian farmers use contractors and advisors for some aspect of their farming operations, and this has been noted as an increasing trend in Australia and the UK (Nye, 2018; Nettle, 2018))
- Employees: temporary, casual, permanent and migrant employees (e.g. working as calf-rearers; farm hands; or pasture and herd managers, etc.). This can involve work experience/youth workers through to older/semi-retired workers.

Each of these workforce categories represents different ‘labour and skill pools’ or segments that in combination, reflect the options for designing farm systems that suit and fit the people. Each segment reflects different skill categories and the people in each category will hold different expectations requiring different management.

Therefore, improving the workforce data for agriculture is needed. This can be achieved by working with industry organisations. ABS, ABARE and other relevant organisations such as Jobs Queensland to ensure that reliable data on the agriculture workforce is available and reliable to help industry and regions undertake workforce planning and development.

RJSA partners agree that there are many occupations that are not currently identified or need to be separately identified.

The primary concern is that occupations currently is involved in production but also in production and value adding products and services that cross over into what is currently defines as Agriculture, Forestry and Fisheries. The RJSA members agreed that the Agriculture Industry scope may need to be reviewed, as the definition excludes occupations involved in turning 'primary products' into 'secondary products' or into services. As the Agriculture industry grows, it would be good to widen or adjust this scope, i.e. Production v's manufacturing.

The largest concern is that there is no occupation accurately describing the ‘farm supervisor’ position. The role of Farm Supervisor is to oversee and supervise farm operations such as; livestock management, crop cultivation, fruit and vegetable production and other agricultural enterprises. This occupation is highly important in most agricultural business and the occupation where most shortages have been experienced. Work involves responsibility for planning, coordinating, and directing the operation of a large institutional farm and its specialized subordinate and related units such as dairy, poultry, truck garden, field, and orchard, and for the care of livestock and equipment or for supervising other farm operations of comparable level of difficulty. Work includes supervision of a large sized group of skilled and unskilled farm workers.

IRRIGATION

Irrigation Australia provides training in Irrigation and the demand for their training is far exceeding the offer due to increasing regulatory requirements amongst other factors. The irrigation sector in agriculture is increasing uptake and required high level of technical skills that are currently in short supply. The ANZSCO codes does not identify the irrigation separately, which needs to be corrected to accurately show the significance of the roles in irrigation for the industry. Roles that have been identified by Irrigation Australia include:

Irrigation Designer and Irrigation Manager (Diploma- Level 1)
Irrigation Technician (Cert III- Level 2)

AQUACULTURE

- Aquaculture technician
- Administration officer
- Manager
- Hatchery manager
- Hatchery technician
- Systems Engineer
- Seafood processing attendant
- Water quality technician
- HR officer

Please see list of titles to be included classified into Aquaculture Industry Occupations (Attached as a sperate document).

As Aquaculture Industry grows, specialized roles will become more popular. This particularly refers to those that belong to the following subgroups: Sub group 36 Skilled Animal and Horticultural Workers, i.e. Aquaculture Technician, Supervisory / Senior Technicians Level; Sub group 13; Sub group 23; and Sub group 26. Surrounding roles around digitalization, automation and analysis for efficiency and measuring of performance.

UNIT GROUP 1211 AQUACULTURE FARMERS, occupational tasks include *packaging of aquatic stock; maintaining and evaluating records and planning production accordingly*, and; *organising the sale, purchase and transportation of fish stock*. Traditionally those tasks could have been completed by Farm Manager. With growth of industry, occupational tasks are further distributed to individual roles such as processing supervisors, quality, analysts,

despatch, warehouse etc. Worth noting, 1335 PRODUCTION MANAGERS are within Agriculture Industry.

From the Aquaculture Industry Award:

- Aquaculture attendant level 1
- Aquaculture attendant level 2
- Aquaculture attendant level 3
- Aquaculture attendant level 4

From the Seafood Processing Award:

- Process attendant level 1
- Process attendant level 2
- Process attendant level 3
- Process attendant level 4

FROM NURSERIES:

From then nursery industry, currently there is no-where for a production nursery owner or manager to be counted.

Current ANZSCO	Description	Comments
UNIT GROUP 1212 CROP FARMERS	CROP FARMERS plan, organise, control, coordinate and perform farming operations to grow crops.	Currently there is no-where for a production nursery owner or manager to be counted. This category already includes Flower Growers, Turf Grower, and Vegetable Grower so seems right place. Nursery owners or managers should not be in “Other”

Nursery labourers should also be described separately as mentioned below.

Current ANZSCO	Identified AQF Level	Comments
UNIT GROUP 8414 GARDEN AND NURSERY LABOURERS	Certificate 1	Appropriate for what we might call unskilled Nursery Workers. <i>BUT mixes nursery industry with garden workers, two very different industries, one is primary industry the other isn't so can we get split?</i>
UNIT GROUP 3624 NURSERYPERSONS	Certificate 3	Appropriate for Nursery Leading Hands or Supervisors (consider revising name- description).

FROM AGFORCE – COMMENTS ABOUT LIVESTOCK:

The following occupation is not accurately described:

UNIT GROUP 1213 LIVESTOCK FARMERS

LIVESTOCK FARMERS plan, organise, control, coordinate and perform farming operations to breed and raise livestock.

Tasks Include:

- breeding and raising livestock for the production of honey, meat, milk, skins, eggs and wool
- monitoring and maintaining the health and condition of livestock
- providing pastures and fodder to maintain appropriate nutritional levels
- moving livestock to optimise feeding opportunities
- organising and conducting farming operations such as catching, drenching and milking

The description should also include:

- add mustering and animal husbandry
- breeding and raising livestock for the production of honey, meat, milk, skins, eggs and wool
- monitoring and maintaining the health and condition of livestock
- providing pastures and fodder to maintain appropriate nutritional levels – **providing pastures, fodder and water to maintain appropriate nutritional levels**
- moving livestock to optimise feeding opportunities
- organising and conducting **livestock specific** farming operations such as catching, drenching and milking livestock, sterilising machines, and collecting, grading and packaging produce,

The following occupation (currently under Technicians and Trade Workers 39999) needs to be separately included:

ADD NEW

Animal Husbandry Technician, level 3, this includes Pregnancy Testers, Cattle Spayers, Artificial Inseminators.

Accreditation schemes are being introduced requiring Cert III units of competency.

Considerable training and experience is required to meet Cert III unit skill levels for these tasks:

[AHCLSK335](#) Conduct dropped ovary technique procedures for spaying cattle

AHCLSK408 – Pregnancy test animals

In Queensland pregnancy testers number upwards of 100, spayers 50 or more and those working with Artificial Insemination are also numerous but unquantified. These services have been performed by veterinarians but there are not enough veterinarians in key areas.

B. Questions 2 of the issues paper: What agricultural sector occupations in ANZSCO that do not accurately reflect the occupation's skill level?

All industry members agreed that the level of occupations needs to be review more thoroughly and after conducting analysis of the task that are currently performed as occupations have evolved since the last review of the ANZSCO codes. It is the industry's view that most occupations need at least a Skill level 4 and most of the Skill level of most of employees in the industry is level 3, 2, and 1.

Specific responses from industry include:

Beef Cattle Farm Worker

5

A “station hand” is required to operate a range of vehicles (utes, bikes, ATVs) safely in a variety of terrain, transport equipment, ride and care for horses and muster cattle and sheep using appropriate techniques, understand the traits of herd animals for moving them, move cattle in yards safely and efficiently. This corresponds to a skill **level of 4**.

For Aquaculture: Revision of the skilled specialized managers and to capture le level of skills of specialists in various area need to be undertaken as currently reflect a lover level of skills in ANZSCO than what is currently needed.

C. Question 4 issues paper: Are there occupations that are emerging, or you anticipate will emerge, in the next 5 to 10 years in your industry, sector or business?

There are many diverse opportunities for new entrants to be involved in the sector. Agriculture provides many and diverse opportunities for a variety of skills levels. The Queensland Farmers' Federation conducted a report for Jobs Queensland titled '2018 Agriculture Future Skills and Training Needs.

Predicting the agriculture jobs of the future is difficult to do due to the rate of change in agriculture work (Pratley, 2017). Many of the jobs have changed or been created with new jobs now in place that were not there a decade ago. For example, the need for telemetry on water meters.

The changes in the environment and consolidation of farming operations means dealing with the needs of larger agribusinesses. These changes have increased demand for higher skilled farm managers, agri-specialists and technical advisors. While technological capability in the workforce is increasingly needed in agriculture, there will still be requirements for qualified agronomists, soil experts, livestock and other specialists. These professionals need to build their problem-solving capabilities and systems of thinking so that integration with new technologies is managed.

There has subsequently been an increase demand for university graduates in the service industries reflecting new skills (Pratley, 2017). There is a growing professionalisation of roles to support the changing nature of modern farming businesses. Expectations on what is required of those who wish to enter agriculture and maintain their employment has shifted towards higher-skills and specialisation.

The state's agricultural workforce is undergoing a sizable shift in required tasks and roles. Technological change will increase the demand for more professional and technical jobs in our sector. Predicted future skill needs include those of other occupations not traditionally associated with agriculture including engineers, data analysts and business support services. Therefore, we need to attract new and diverse talent into the sector with these required skills.

Feedback from industry members has stated that roles with high level of skills emerging include:

- Data analyst,
- Data modelling,
- Engineers,
- Mathematicians,
- Food safety officers
- Biosecurity officers
- OHS – WHS officers
- Environmental compliance officers
- Mechanics
- Electricians
- Digital Business Intelligence
- Data Programming
- Drone Surveying
- Machinery and infrastructure Programming
- Drone surveying
- Feed Infrastructure Technician
- Animal Health and Welfare Manager
- Domestication Manager
- Indigenous land and water roles.

An example of changing roles is present in the forest and timber sector, which has seen sawmills up-take new technology. Jobs in the sector are rapidly changing towards high tech jobs rather than the labour-intensive kind. As a result, the roles in forestry have changed dramatically. But this has not been enough to motivate new entrants to the industry.

Irrigation Australia has perceived a trend for a larger demand for the following occupations in the next five years: Irrigation Technician (Trade), Irrigation Installer, Irrigation Operator, Irrigation Contractor, Irrigation Manager, Irrigation Agronomists, Irrigation Retailers, Certified Meter Installers & Validators, Certified Storage Meter Installers & Validators, Certified Irrigation Designers.

Metering (Water) and (Artesian) Bore Drillers: These licenced occupations and skills are in increasing demand by farmers due to increasing regulatory requirements in Queensland. There are significant shortages in the number of skilled professionals in these sectors.

Carbon analyst- The carbon sequestration analyst will examine the linkages between carbon sequestrations technologies, their market readiness, and cost profile. The analyst is part of a team of technologists and analysts tasked with exploring industry transformations and other potential disruptions ultimately to help position innovation and find competitive advantage.

Innovation within the sector will change the workforce composition of the industry, new job profiles will emerge, which could include Geo-engineers, energy farmers, the alternative protein farmers, insect farmers (see appendix for professional profiles).

There is a growing number of on-farm activities which are related to, and support primary production activities and businesses such as agri-processing and agritourism which are not captured. For example, QFF has adopted a definition of agritourism as *“a tourism-related experience or product that connects agricultural products, people or places with visitors on a farm or rural land”*. There are also growing opportunities associated with green market mechanisms (carbon, reef and biodiversity credits, land offset programs) and the professional services that underpin them.

In order to grow and be sustainable, businesses are increasingly adding value to their business and increasingly diversifying into multiple crops, multiple services and products to take on the opportunities that are available. In horticulture for example, many of the businesses are not just growing crops but also incorporating food processing. The complexity of the business creates a challenge for the ANZSCO code as many of the occupations cross boundaries across industries as they are currently described. This is a challenge as it becomes increasingly difficult to get an understanding of the size of the agribusiness workforce.

The industry has experienced movement in many specialised roles that are increasingly important such as:

- **Agricultural Economists:** They apply microeconomic and macroeconomic concepts and theories to understand economic decisions, such as why shoppers make certain decisions about the food they buy and how the government chooses how to support farmers. They analyze economic data to find and determine trends in economic activity. Some agricultural economists spend their time in an office, performing calculations and analysis on a range of data. Others spend their time in the fields, surveying land, interviewing farmers and performing research.
- **Agricultural engineer:** They seek to improve current farming methods, designing new equipment and machinery using computer aided technology (CAD). They use data from the weather and GPS to advise farmers and businesses on land use, assessing the impact of the current processes on crops and the surrounding environment. In this role, they might get to supervise agricultural construction projects.
- **Food technologist:** Food technologist gather this information to ensure safety and to determine how long processed items can be preserved. They main Maintain compliance and accreditation with required standards and certification, conduct internal audit as per schedule, conduct experiments and testing for product development and improvement, set standards for producing, packaging, and marketing of food products.
- **Environmental engineer:** There would be nothing to harvest if the conditions for planting and growing are poor; the work of environmental engineers is then so important to agriculture. By combining principles from different science fields, environmental engineers create systems that aim to prevent future damages like soil erosion, deforestation and pollution.

ICT will need to become part of the process in many of the agriculture occupations ((Pratley, 2017). Pratley (2017) also mentions that in addition to these roles, there will be a growth in specialist ICT companies and businesses that service technologies.

Occupation in the service sector will tend to grow including marketing, value-adding process, packing, logistics, distribution, fencing, harvesting, spraying, picking, farm business advising, data analysis and others. New career paths are also available in the environment sector, land management in conservation, climate change, irrigation and water management, and biosecurity (Burrow, 2017).

D. Question 5 of the issues paper: Are there occupations that are declining, or you anticipate will decline in the next 5 to 10 years in your industry, sector or business? For each declining occupation, please explain what is driving the decline of the occupation.

Unskilled farm labourers are less useful as farming continues to advance through technology, data management, digitalisation and the legal requirement to comply with WH&S and to assess and manage risk. The role of farm workers increasingly requires understanding of the production system and how data is collected and used to make farm management and operational decisions. Using plant and equipment that is more complex and digitally controlled is increasing the need for good LLN skill levels. Those classified under the skill 5 level will likely to decrease and the need for people with the level of skills 4,3,2,1 will increase.

ANSWERS TO ADDITIONAL QUESTIONS

- What occupations or emerging occupations in your industry, sector or business are amenable to a traineeship model?

From Irrigation: Irrigation Technician (Trade), Irrigation Installer, Irrigation Operator, Irrigation Contractor, Irrigation Manager, Irrigation Agronomists, Irrigation Retailers, Certified Meter Installers & Validators, Certified Storage Meter Installers & Validators, Certified Irrigation Designers

From Nursery: Nursery Labourer should be upgraded to Certificate II Nursery Operations and would then be well suited to a Traineeship.

From Aquaculture: Aquaculture attendant level 4, Process attendant level 4 and also:

- Food /quality processing
- Human Resources
- Seafood Industry Food processing Team Leaders
- Aquaculture Technicians
- Animal Health
- Quality Assurance Officer
- Quality controller
- Sales and distribution
- Centralised Feeding – automation
- Electricians
- Power automation
- Plumber
- Architectural, Building and Surveying Technician

- Information technology – systems admin, software, analysis and design, web-based, networking, programming,
- Database operator / support / specialist
- Project management Laboratory Technicians /operations
- Transport/ distribution / logistics

Please see attached table for other suggestions of where a traineeship model can be implemented.

- *What occupations in your industry, sector or business are most likely needed to be filled through migration?*

Seasonal workers in the fruit, nut, and vegetable industries- horticulture workers.

Crop Farm workers during grain peak seasonal activity- harvesting support- operating trucks and machinery

- Explain the barriers to filling the occupation from the domestic workforce. There are simply not enough willing people available. These positions are transient, requiring a workforce willing to move around the country in accord with peak labour demands.
- Detail the advantages and disadvantages to filling the occupation through migration. There are many experienced farm workers globally but particularly in agriculturally similar countries (America, Europe etc) who would adapt quickly to Australian farming methods. These workers would be available in the European winter – Australian summer as well as permanently migrating.

- *What occupations in your industry, sector or business are in demand and/or hard to fill?*

- Mid-level management occupations, such as leading hand, farm overseer, farm supervisor, and production manager. The shortage of mid-tier managers has repeatedly been highlighted as a skills gap in many agriculture industries from cotton to the production nursery industry.

It is estimated that A\$2 million are lost each year due to the existing workforce shortage in the food and agribusiness sector (Food Innovation Australia, 2020)

Labour concerns are among some of the top challenges that farmers report. The causes of labour shortages are complex and varied across industries and geographical areas. As well as seasonal labour needs, agricultural industries will increasingly need skilled workers.

The National Lost Crop Register was launched by Growcom in December 2020 to quantify the true cost to industry and the national economy from a lack of seasonal workers available to harvest fresh fruits and vegetables.

The sector will need to ensure existing workers have the right skills to master a changing global environment.

Semi-experienced or suitable to train farm workers in the crop and livestock industries.

COVID has impacted the availability of many occupations.

- i) Explain whether these occupations are an ongoing issue in your industry, sector or business.

Yes, there is a shortage of every kind of skill in regional areas but especially for farm workers, agronomists, irrigation workers, nursery workers, machinery operators, truck drivers.

- ii) Detail how the COVID-19 pandemic has affected demand or ability to fill these occupations.

It has made it impossible. Agriculture is experiencing multiple shortages in many occupations.

Queensland AgTrends forecasts suggest that labour shortages in horticulture may be up to 20 per cent of total labour demand, with small to medium sized producers more affected (Department of Agriculture and Fisheries, 2020).

Latest DAF modelling shows the average monthly casual and contract labour demand in horticulture is between 15,000 and 18,000 full-time equivalents. (Department of Agriculture and Fisheries, 2021). Most of these available opportunities were located across many regional areas of Queensland with roles available for both skilled and unskilled workers.

- iii) Describe the impact this demand has on your industry, sector or business. Harvesting season will be lengthened as harvest slows down waiting for harvester and truck drivers to be available or for less workers to do more work over a longer period.

In horticulture, this means crops not picked and possibly the closing of some operations.

Specific concerns from RJSA members include:

- a. Agforce

The grazing sector is concerned about seasonal employment of station hands as every year there is a level of turnover. There is increased worry from the industry about the availability of workforce due to COVID as there appears to be a change in the willingness of workers to travel. This coupled with serious worker shortages in many regional areas.

The sheep and wool sectors are also concerned about future employment solutions including the lack of training arrangements and opportunities.

- b. NQIQ

The nursery sector growth is slowing, but overall growth over the last 12 months has been about 30 percent which is quite extraordinary. Overall demand for staff has grown at all qualification levels. At the entry level, their issues are not unique, mainly about finding people who are punctual and willing to do a real day's work.

At the higher levels (Supervisor / Manager) in our larger businesses (15 plus employees), there is a serious shortage of skilled people and has been for some years. Current industry growth has exacerbated this issue.

c. Growcom

The fruit, nut, and vegetable subsectors report massive shortages; there is simply not enough people to do the job. The incentives provided to get long term unemployed people are not working. The industry has appreciated DAF's help with the pacific labour scheme.

As a result of COVID, there can be the consequence of more interest from the industry in training. There are a few initiatives currently in place to motivate various cohorts of workers to address the shortages. There is currently good media about working in regions and working in agriculture. The sector should build on the opportunities and promoting the regional opportunities and promote building community.

Programs such as the Agfood program that DESE supports could be improved by providing support to school leavers and remove the condition of being unemployed and registered with job actives. This implies a regional approach and providing opportunities for a school leaver to be placed in multiple businesses.

d. APFA

The industry is growing. In the next few years, the industry expects to employ over a 1,000 people in regional areas. The industry wants to showcase the careers available in the industry and connect with schools and the young generation. It is important to work with education and training providers to ensure that appropriate training is provided to those entering the industry and also to upskill the available workers through the use of accredited and unaccredited training, skill sets and micro-credentials.

e. Cotton

There is a potential 40 percent increase in crop size for the next size. There is a survey at the moment trying to identify labour requirements. They are also undertaking a skill needs analysis of the current growers and working with GRDC in that analysis.

With the closure of QATC, the industry needs to think innovative about solutions. Think first about what the training need is and then how it can be delivered.

f. Irrigation Australia

The new qualification at the trade level is going well. There is an increase in demand for skilled people in irrigation positions nationally.

APPENDIX A

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
	Unit group 1213 Livestock Farmers				
	121311	Apiarist	1	Alternative Title: Beekeeper Plans, organises, controls, coordinates and operates apiaries to produce honey, queen bee pollen, beeswax and royal jelly, breed queen bees and pollinate crops.	AHC31818- Certificate III in Beekeeping
	Unit group 1214 Mixed Crop and Livestock Farmers				
	121411	Mixed Crop and Livestock Farmer	1	Alternative Title: Farmer and Grazier Plans, organises, controls, coordinates and performs farming operations to both grow crops and to breed and raise livestock. Specialisations: Cattle and Wheat Farmer, Lifestyle Block Farmer (NZ), Sheep and Wheat Farmer	AHC30116- Certificate III in Agriculture
Major group 3 Technicians and Trade Workers	Unit group 3221 Metal Casting, Forging and Finishing Trades Workers				
Sub-major group 32 Automotive and Engineering Trades Workers	322113	Farrier	3	Inspects, trims and shapes horses' hooves, and forms, fits and nails horseshoes.	ACM40818- Certificate IV in Farriery
Minor group 322 Fabrication Engineering Trades Worker	Unit group 3612 Shearers				
	361211	Shearer	3	Removes wool and hair from sheep, goats, alpacas and other animals.	AHC32916- Certificate III in Shearing
Major group 3 Technicians and Trade Workers	Unit group 3621 Florists				
Sub-major group 36. Skilled Animal and Horticultural Workers	362111	Florist	3	Prepares and sells floral arrangements.	AHC30716- Certificate III in Horticulture
Minor group 362. Horticulture Trades Workers	Unit group 3622 Gardeners				
	362211	Gardener (General)	3	Plants, cultivates and maintains parks and gardens.	AHC31016- Certificate III in Parks and Gardens
	362212	Arborist	3	Alternative Title: Tree Surgeon Maintains and cares for trees and shrubs by lopping limbs and shaping branches, treating trees with fertilisers and insecticides, removing dead or decaying trees, and advising on general tree care.	AHC30820- Certificate III in Arboriculture

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
	362213	Landscape Gardener	3	Plans and constructs garden landscapes.	AHC30916- Certificate III in Landscape Construction
	Unit group 3623 Greenkeepers				
	362311	Greenkeeper	3	Alternative Title: Turf Keeper Establishes and maintains fine turf, grassed areas and synthetic surfaces used for sporting events.	AHC31319- Certificate III in Sports Turf Management
	Unit group 3624 Nurserypersons				
	362411	Nurseryperson	3	Propagates and cultivates trees, shrubs, and ornamental and flowering plants in a plant nursery. Specialisation: Plant Propagator	AHC31120- Certificate III in Nursery Operations
Major group 3 Technicians and Trade Workers	Unit group 3999 Other Miscellaneous Technicians and Trades Workers				
Sub-major group 39. Other Technicians and Trades Workers	399917	Wool Classer	2	Classifies wool to industry standards or market requirements.	AHC33016- Certificate III in Wool Clip Preparation (Owner classer)
Minor group 399. Miscellaneous Technicians and Trades Workers	39999	Technicians and Trades Workers nec (part)	3	This occupation group covers Technicians and Trades Workers not elsewhere classified. Occupations in this group include: Airborne Electronics Analyst (Air Force), Architectural Model Maker, Canoe Maker, Coffee Machine Technician, Fibre Composite Technician, Glass Blower, Hide and Skin Classer, Irrigation Designer, Kayak Maker, Milking Machine Technician, Parachute Rigger, Pearl Technician, Pyrotechnician, Ski Technician, Surfboard Maker	AHC32419- Certificate III in Irrigation Technology Certificate
Major Group 5 Clerical and Administrative Workers	Unit group 5995 Inspectors and Regulatory Officers				
Sub-major group 59 Other Clerical and Administrative Workers	599514	Noxious Weeds and Pest Inspector (part)	4	Alternative Title: Biosecurity Officer (Weeds and Pests) Inspects and monitors plants, land and water for noxious plants and animal species, and organises for their control or eradication.	AHC30318- Certificate III in Rural and Environmental Pest Management
Minor group 599 Miscellaneous Clerical and Administrative Workers					
Major group 6 Sales Workers	Unit group 6111 Auctioneers, and Stock and Station Agents				

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
Sub-major group 61 Sales Representatives Minor group 611 Insurance Agents	611111	Auctioneer	3	Conducts sales of real estate, goods and livestock by taking offers from buyers and accepting the highest purchase price. Registration or licensing is required.	AHC30116- Certificate III in Agriculture plus a real estate auctioneers licence Level 1
	611112	Stock and Station Agent	3	Provides advice to clients and acts on their behalf in relation to the sale and purchase of rural property, livestock, crops and agricultural products and services. Registration or licensing may be required.	AHC30116- Certificate III in Agriculture plus a real estate licence Level 2
Major group 6 Sales Workers	Unit group 6392 Retail and Wool Buyers				
Sub-major group 61 Sales Representatives Minor group 639 Miscellaneous Sales Support Workers	639212	Wool Buyer	3	Values and buys wool sold by wool growers.	Ability to make economic decisions. Higher level of skills- Level 2
Major group 7 Machinery Operators and Drivers	Unit group 7113 Paper and Wood Processing Machine Operators				
Sub-major group 71 Machine and Stationary Plant Operators Minor group 711 Clay, Concrete, Glass and Stone Processing Machine Operators	711313	Sawmilling Operator	3	Alternative Title: Sawmiller Sets up and operates machines to cut logs into planks of standard sizes. Specialisations: Band Saw Operator, Beam Saw Operator, Cant Gang Sawyer, Resawyer, Ripsaw Operator	FWP30316- Certificate III in Sawmilling and Processing
Major group 7 Machinery Operators and Drivers	Unit group 7211 Agricultural, Forestry and Horticultural Plant Operators				
Sub-major group 72 Mobile Plant Operators Minor group 721 Mobile Plant Operators	721111	Agricultural and Horticultural Mobile Plant Operator	4	Operates agricultural and horticultural plant to clear and cultivate land, and sow and harvest crops. Registration or licensing may be required. Specialisations: Cotton Picking Machine Operator, Harvester Operator, Tractor Operator	AHC30620- Certificate III in Production Horticulture AHC30116- Certificate III in Agriculture
	721112	Logging Plant Operator	3	Operates plant to fell trees and drag, transport and load logs onto trucks. Registration or licensing may be required. Specialisations: Forwarder Operator, Skidder Operator, Tree Feller Operator	FWP30216- Certificate III in Harvesting and Haulage
	Unit group 8394 Timber and Wood Process Workers				

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
	839412	Sawmill or Timber Yard Worker	4	Alternative Titles: Timber Mill Worker, Wood Processing Worker Performs routine tasks in a sawmill or timber yard such as sorting and stacking timber, assisting timber machinists, assembling orders and racking offcuts. Specialisation: Dry Mill Worker (NZ), Tailer-out	FWP30316- Certificate III in Sawmilling and Processing
Major group 8 Labourers	Unit group 8411 Aquaculture Workers				
Sub-major group 84 Farm, Forestry and Garden Workers	841111	Aquaculture Worker	5	Performs routine tasks in breeding and raising fish and other aquatic stock.	SFI20119- Certificate II in Aquaculture
Minor group 841 Farm, Forestry and Garden Workers	Unit group 8412 Crop Farm Workers				
	841213	Grain, Oilseed or Pasture Farm Worker (Aus) / Field Crop Farm Worker NZ	5	Performs routine tasks on a grain, oilseed protein, or pasture farm such as cultivating and fertilising soil, and planting and irrigating crops. May spray chemicals on crops to treat disease and pests.	AHC30116- Certificate III in Agriculture AHC40116- Certificate IV in Agriculture
	841214	Vegetable Farm Worker (Aus)/ Market Garden Worker NZ	5	Performs routine tasks on a vegetable farm or market garden such as cultivating and fertilising soil, and planting and irrigating crops. May spray chemicals on crops to treat disease and pests. Exclusions: Vegetable Pickers are excluded from this occupation. Vegetable Pickers are included in Occupation 841215 Vegetable Picker.	AHC30620- Certificate III in Production Horticulture
	841215	Vegetable Picker	5	Harvests vegetables and prepares produce for distribution. Exclusions: Vegetable Farm Workers (Aus) / Market Garden Workers (NZ) are excluded from this occupation. Vegetable Farm Workers (Aus) / Market Garden Workers (NZ) are included in Occupation 841214 Vegetable Farm Worker (Aus) / Market Garden Worker (NZ).	AHC30620- Certificate III in Production Horticulture
	841299	Crop Farm Workers nec (part)	5	This occupation group covers Crop Farm Workers not elsewhere classified. Occupations in this group include: Coffee Plantation Worker (Aus), Duboisia Farm Worker (Aus), Flower Buncher or Picker, Hop Farm	Various related Cert III qualifications

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
				Worker, Lavender Farm Worker, Sugar Cane Planter (Aus), Tea Plantation Worker (Aus), Tea Tree Farm Worker, Turf Farm Worker	
	Unit group 8413 Forestry and Logging Workers				
	841311	Forestry Worker	4	Assists with cultivating, maintaining and protecting forests. Registration or licensing may be required. Specialisations: Fire Lookout, Forestry Tree Pruner, Tree Planter, Tree Thinner (NZ)	FWP30116- Certificate III in Forest Growing and Management
	841312	Logging Assistant	4	Alternative Title: Logger Assists with logging, felling and sawing of trees in forests. Specialisation: Sleeper Cutter	FWP30216- Certificate III in Harvesting and Haulage
	841313	Tree Faller	4	Alternative Title: Tree Feller Fells trees in forests, and trims and saws them into logs. Registration or licensing may be required. Specialisations: Hardwood Faller, Softwood Faller	FWP30216- Certificate III in Harvesting and Haulage
	Unit group 8414 Garden and Nursery Labourers				
	841411	Garden Labourer	5	Assists in cultivating and maintaining gardens. Specialisation: Lawn Mower	
	841412	Horticultural Nursery Assistant	5	Alternative Title: Nursery Hand (Horticulture) Assists in propagating, cultivating and harvesting plants in a horticultural nursery.	AHC31120- Certificate II in Nursery Operations
	Unit group 8415 Livestock Farm Workers				
	841511	Beef Cattle Farm Worker	5	Performs routine tasks on a beef cattle farm such as feeding, mustering and moving cattle, and assisting with animal husbandry.	AHC30116- Certificate III in Agriculture
	841512	Dairy Cattle Farm Worker	5	Performs routine tasks on a dairy farm such as herding and milking cattle.	AHC30116- Certificate III in Agriculture

Category	Code	Title	Skill level Thorough review needed	Description (these need industry consultation and more accurate reflection of the occupations)	To be delivered as a traineeship
	841513	Mixed Livestock Farm Worker	5	Performs routine tasks on a mixed livestock farm such as moving, feeding and counting livestock, and assisting with animal husbandry.	AHC30116- Certificate III in Agriculture
	841514	Poultry Farm Worker	5	Performs routine tasks on a poultry farm such as collecting eggs and placing them in incubators, providing poultry with feed and water, and disinfecting hatcheries to prevent disease.	AHC30516- Certificate III in Poultry Production
	841515	Sheep Farm Worker	5	Performs routine tasks on a sheep farm such as herding sheep into pens in preparation for branding, shearing, crutching, dipping and yarding for sale. Specialisation: Shepherd	AHC30116- Certificate III in Agriculture
	841599	Livestock Farm Workers nec	5	This occupation group covers Livestock Farm Workers not elsewhere classified. Occupations in this group include: Deer Farm Worker, Emu Farm Worker, Goat Herder, Ostrich Farm Worker, Piggery Worker	Farm Livestock worker or Trainee Stationhand Cert III skills across a board range of tasks and over a period of time.
	Unit group 8416 Mixed Crop and Livestock Farm Workers				Farm Livestock worker or Trainee Stationhand Cert III skills across a board range of tasks and over a period of time.
	841611	Mixed Crop and Livestock Worker	5	Alternative Title: General Farm Hand Performs routine tasks in crop cultivation and animal production.	AHC30116- Certificate III in Agriculture
Major group 8 Labourers	Unit group 8992 Deck and Fishing Hands				
Sub-major group 89 Other Labourers	899212	Fishing Hand	4	Alternative Title: Fishing Boat Mate Catches fish, crustacea and molluscs using nets, pots, lines and traps in ocean and inland waters. Specialisations: Cray Fishing Hand, Prawn Trawler Hand, Purse Seining Hand	
Minor group 899 Miscellaneous Labourers					

APPENDIX B.

A report commissioned by the European Parliament (Scientific Foresight Unit, 2016) on the effect of precision agriculture and the future of farming in Europe, suggests that new business models will emerge as a result of new technologies as well as professional profiles such as:

- The Geo-Engineer to specialise in carbon sequestration, alongside a food production business.
- The Energy Farmer to specialise in renewable energy production and management for the local area.
- The Web Farm Host to give a constant, positive commentary to the outside world, explaining what is going on and often giving virtual tours to school children
- The Animal Therapist to act as a welfare manager for farm animals making sure consumers buying meat or dairy products from the farm can access information about animal wellbeing.
- The Pharmer to use biotechnology expertise to grow and harvest plants that have been genetically engineered with foreign DNA to make them produce medicine
- The Insect Farmer to farm large quantities of insects for use as natural predators to control the new species of insect that spread in farming areas because of climate change.

FIAL recent analysis Changing job and skill implications in Australia's Food & Agribusiness sector (2020) also describes the various opportunities that exists including (amongst others):

- Health and wellness (371,000 jobs in 2025). Opportunities around healthier eating and wellness food could support around 371,000 jobs in 2025 -an increase of 20 per cent.
- Global consuming class (60,000 jobs in 2025) Job opportunities in businesses that service the growing class of consumers with higher disposable incomes could almost double from 30,000 to 60,000 between 2019 and 2025.
- Targeted eating (37,000 jobs in 2025). Opportunities around reformulated, functional and nutritionally fortified foods could support around 37,000 in 2025 –
- Food waste (18,000 jobs in 2025). There's great potential for new jobs around waste collection, disposal and recycling service.
- Energy Smart Food (23,000 jobs in 2025). Opportunities to produce food with less energy could support around 23,000 jobs in 2025.
- Food Safety (12,000 jobs in 2025). New opportunities to improve food safety in Australia could create 1,000 additional jobs between 2019 and 2025, an increase of 7 per cent.
- Urban agriculture (22,000 jobs in 2025). The job creation potential of business opportunities in urban agriculture is expected to strengthen further in coming years.
- Supply chain transformation (13,000 jobs in 2025). The estimated jobs linked to this opportunity could almost triple between 2019 and 2025.

References

- Department of Agriculture and Fisheries. (2021). *Horticulture labour analysis*. Brisbane: Queensland Government.
- Burrow, T. (2017). Agribusiness is a Cornerstone of Australia's Future Prosperity. *Farm Policy Journal*, 14(1), 29-35.
- Department of Agriculture and Fisheries. (2020). *AgTrends 2020–21 Forecasts and trends in Queensland agricultural, fisheries and forestry production*. Brisbane: Queensland Government.
- Food Innovation Australia. (2020). *Changing job and skill implications in Australia's Food & Agribusiness sector*.
- KPMG. (2016). *Powering growth - realising the potential for agtech in australia*.
- Nettle, R. (2018). International trends in farm labour demand and availability (and what it means for farmers, advisers, industry and government). *International Agricultural Workforce Conference*. Cork, Ireland.
- Nye, C. (2018). *The 'blind spot' of agricultural research: Labour flexibility, composition and worker availability in the South West of England*. Cahiers Agricultures. 27. 35002. 10.1051/cagri/2018018.
- Pratley, J. (2017). The Technology Paradigm Driving Agricultural Workforce Change. *Farm Policy Journal*, 14(1), 19-27.
- Scientific Foresight Unit. (2016). *Precision Agriculture and the Future of Farming in Europe*. Brussels: European Parliament Research Services. Retrieved from [http://www.europarl.europa.eu/RegData/etudes/STUD/2016/581892/EPRS_STU\(2016\)581892_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/581892/EPRS_STU(2016)581892_EN.pdf)