

# Blueprint for agricultural education in Queensland

## 2015–2020



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CS3722 11/14

# Minister's foreword

Agricultural industries are integral to Queensland's economy. The agriculture, fisheries and forestry sector as a whole is the backbone and social fabric of many of our state's rural and regional communities.

The total output of farming, fisheries, forestry and first-stage processing for 2013–14 is estimated to be approximately \$14.7 billion. The sector is highly diverse, with the largest contributions coming from meat products (38%), horticulture products (28%), sugar (11%), cereal grains (6%) and cotton (5%). There are approximately 28 000 farm businesses in Queensland and another 1500 businesses in fishing, forestry and food processing.

Queensland agriculture has undergone extensive change in recent years. This change will continue as the the Department of Agriculture, Fisheries and Forestry (DAFF) strives to achieve the target of doubling agricultural production by 2040. This is an achievable target because of the enormous opportunities created by growth in emerging economies.

To meet the needs of this new era of agricultural production, the industry needs to ensure there is a pool of competent, passionate and innovative people ready to make it happen. Agricultural education including activities in schools, vocational education and higher education—will provide the cornerstone for the development of a workforce with the skills and knowledge necessary to face the challenges and seize the opportunities of the next two decades.

Agriculture needs to improve its image and appeal as a potential employment pathway for new entrants into the workforce in both professional and non-professional jobs. The industry also needs to be proactive in assisting the education system a to develop new ways of promoting education and training for the existing workforce as well as for new entrants.

DAFF is committed to supporting the longer term development of skilled workforces for agriculture and related first-stage processing. The *Blueprint for agricultural education in Queensland 2015–2020* will guide a coordinated effort between DAFF, industry, service providers and communities towards agreed priorities. Together we will:

- increase educator, career advisor, student and parent awareness of agriculture as a rewarding and viable career destination
- increase the uptake of studies pertaining to agriculture and agribusiness at all levels of education
- ensure there are sufficient high-quality teachers of agriculture in schools, vocational education and higher education
- enhance the content of agricultural courses and related courses to meet current and emerging needs
- prepare young people for successful careers in agriculture and related supply chains
- encourage the existing workforce to seek upskilling opportunities that support growth in agriculture and the rural sector.

This blueprint was developed through stakeholder consultation and industry roundtable discussion led by the Agriculture, Fisheries and Forestry Industry Skills Advisory Group (ISAG).

**Honourable John McVeigh MP**  
**Minister for Agriculture, Fisheries and Forestry**



## Message from the ISAG chair



The target of doubling agricultural production in Queensland by 2040 aligns with the growing demand for food and fibre. To meet this target, the industry needs a highly skilled workforce, which will increasingly be sourced from urban Australia and overseas. Current literature on career motivation and choice highlights the importance of early and positive school experiences, inspirational teachers in schools and the higher education system, and greater understanding of career opportunities. To attract people to agriculture and to retain skilled workers, industry, educators and governments must work together towards shared goals. Then we will be able to realise the potential of Queensland's agribusiness sector.

**Dr John A Taylor**  
**Chair, ISAG**

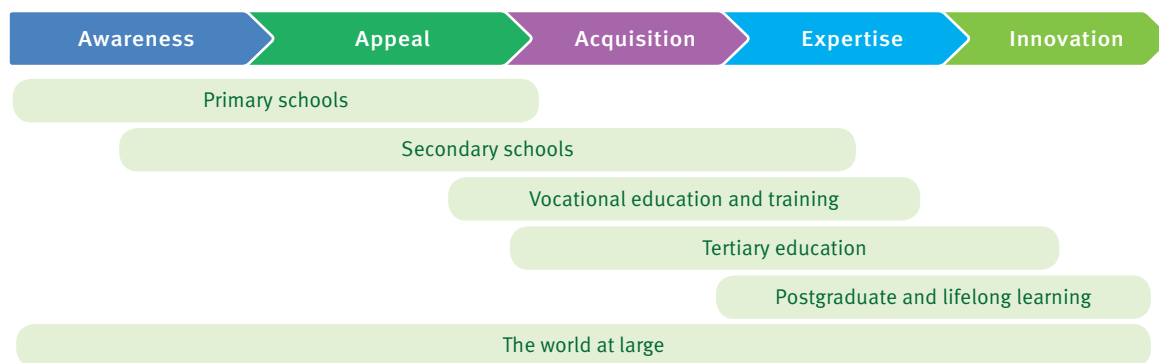
# Developing the blueprint

## Establishing a framework

Queensland’s agricultural industry is complex and many organisations provide educational services to this sector as well as to related supply chain sectors. Inevitably, crossovers and duplications occur as passionate people and organisations try to offer and promote innovative education and training systems that satisfy current workforce development needs.

This systemic complexity of the education and training systems in Queensland is represented in the flowchart below. The generic elements across the top of the flowchart provide a framework for observation and analysis—they help define areas of interest and priority. The flowchart was a key tool in developing this blueprint.

## Stages of learning and their relationship to the education system



**Awareness** is a general understanding of the contribution that agriculture makes to the Queensland economy. This includes understanding of the origins of food and fibre, food security, employment in agriculture and agriculture’s interactions with other sectors of the economy and the community.

**Appeal** is an extension of awareness to the understanding of potential employment pathways, plus attraction to the prospect of working in agriculture and helping it to contribute to Queensland’s economy.

**Acquisition** is attaining the knowledge and skills needed to undertake employment in agriculture and related supply chain sectors.

**Expertise** is higher level understanding and experience in chosen employment pathways.

**Innovation** is the use of expertise to develop ideas that improve the way business is done, its sustainability and its resilience.

People may enter, exit and re-enter this system at different points a few times or many times in their lives. This flexibility can be an advantage in attracting people who possess or have the desire to possess the diversity of skills needed in Queensland’s agricultural industry.

# Targets and goals

This section outlines seven agreed targets for action. These targets address the most significant challenges facing industry, service providers and communities as identified by key stakeholders. They provide DAFF with a decision-making framework for investment in agricultural education.

## Target 1—Increased positive awareness of agriculture

### Issue

Creating community awareness of the origin of food and fibre is the first step in providing a realistic and positive appreciation of agriculture’s contribution to our society. Many people do not recognise that the raw materials needed to produce food, clothing and shelter—three essentials of life—come from agricultural production. This awareness will help to stimulate interest in work and career options related to agriculture.

### Goals

- Raise the overall knowledge and understanding of the importance of agriculture as a foundation activity. Increase this awareness in our community—especially among schoolchildren—and demonstrate the importance of agriculture in our daily lives. Promote agriculture, fisheries and forestry as a critical part of our society.
- Work with schoolchildren from Prep to Year 12 (and by association their parents and teachers) to help them understand that modern agribusinesses require a highly skilled workforce and offer interesting, exciting and varied career pathways.
- Encourage inspirational teachers, trainers and lecturers and facilitate support networks for these professionals.





## Target 2—Improved image of agriculture as an employment pathway/opportunity

### Issue

To attract new employees, the industry needs to proactively promote agriculture and improve marketing of the wide variety of careers in the agriculture supply chain. Highlighting the appealing aspects of the industry—such as innovation, lifestyle and successful business management—can motivate people from different fields to apply their skills in an agricultural context.

Increasingly, students entering the agricultural industries will come from urban areas. These students (and their parents) form opinions of agriculture from newspaper and television reports, which unfortunately are often quite negative. Publicity on poor environmental management, climate pressures and economic difficulties, for example, affects the desirability of agriculture as a career choice.

### Goals

- Promote agricultural workplaces as diverse, interesting and rewarding.
- Communicate that there is a positive future for the industry and that it can make a strong contribution to Queensland's economy.
- Develop a set of unified, consistent messages for industry sectors to use to when describing Queensland's bright future in agriculture.
- Communicate that innovation is supported, promoted and developed in the industry through strong partnerships with governments and the broader community.

## Target 3—More people attracted to agricultural careers, education and training

### Issue

Young people are not being attracted to agricultural careers in the numbers needed. This is not unique to high school students nor is it a recent concern. Surveys and reports going back 30 years identified that the general public considered farming to be an important industry, but it ranked poorly as a career choice.

Recent surveys commissioned in Australia by the Primary Industries Education Foundation (PIEF)<sup>1</sup> and Rabobank<sup>2</sup> revealed that approximately 75% of students knew little about farming and food production. The PIEF survey identified that 77% thought cotton socks were an animal product and 45% could not identify that everyday lunchbox items such as bananas, bread and cheese originated from farms. Both surveys highlighted the need for a long-term, cross-industry, whole-of-government approach to education about agriculture and careers in agriculture.

The Rabobank survey rated careers in terms of career choice, and careers in agriculture rated lower than many other professions. Medicine and business were rated highest (24% and 19% respectively) and 7% of respondents expressed interest in a career in agriculture.

Recently there has been limited capacity for producers to employ new staff in on-farm positions due to lower returns in income. However, agribusinesses need to employ technical, business management and other ancillary services. Promotion of off-farm, supply chain, service or aligned sectors and roles can draw people into the industry and into regional areas in an off-farm capacity.

### Goals

- Identify the extensive choice of careers (including professional positions) available across agricultural enterprises, including first-stage processing. Promote these, highlighting the wide range of working conditions, remuneration levels and options for urban, rural and international locations.
- Ensure relevant information is readily available to potential workforce participants and schools/career advisors. This should include details of where jobs are advertised, what skills and knowledge are needed and how applicants should seek employment.
- Provide plain English information about remuneration packages and lifestyle options in the agriculture sector.
- Ensure the supply of suitably qualified, practical and experienced teachers, trainers and lecturers into the future.

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1 Australian Council for Educational Research 2011, *Food, fibre and the future*, <<http://www.primaryindustrieseducation.com.au/resources/reports/foodfibrefuture.pdf>>, accessed 18 July 2014.

2 Rabobank 2014, *Survey of city teens highlights 'concerning' Australian urban-rural divide*, <<http://www.rabobank.com.au/News-and-Events/Media-Releases/2014-News-Archive/Pages/media-release-20140723.aspx>>, accessed 31 July 2014.



## Target 4—Increased learning about agribusiness in schools

### Issue

Success in agriculture as a study option is primarily due to the practical experiences provided and the passion, knowledge and exposure to the industry that teachers bring with them. Curriculum resources, tools and information are readily available to teachers; however, if teachers lack the passion and interest to deliver the information effectively, the results are poor. In the 2012 survey undertaken by PIEF, teacher knowledge was found to be weakest in relation to fisheries, with 26% of teachers saying they were unfamiliar with issues related to the fishing sector.<sup>3</sup>

### Goals

- Support the development of agriculture-related teaching resources, aligned to the Australian curriculum.
- Ensure that school resources related to agriculture are based on valid, contemporary information about the industry. (This applies to all subjects, not just agricultural science and practice.)
- Provide ongoing professional assistance for teachers and career advisors to ensure they have a contemporary understanding of agriculture and its opportunities for all students (not just those already engaged in agricultural science or practice).
- Support teachers through professional development and encourage their passion for agriculture.
- Support the delivery of agriculture-related education with practical projects, work experience and other industry contact.
- Help schools understand what employers value most in young people entering the agriculture workforce.
- Link agricultural gateway schools as feeder schools to agricultural colleges and other education institutions.

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<sup>3</sup> Australian Council for Educational Research 2011, *Food, fibre and the future*, <<http://www.primaryindustrieseducation.com.au/resources/reports/foodfibrefuture.pdf>>, accessed 18 July 2014.

## Target 5—Increased study of agribusiness in vocational education and training

### Issue

A strong workforce comes from training that is relevant to the industry and develops practical skill sets. Industry is seeking a workforce that is responsive to change, innovative and job ready.

Industry is also seeking flexibility in vocational training that allows students to obtain industry-specific skill sets as opposed to entire qualifications.

### Goals

- Support industry to understand and implement key initiatives as outlined in the Queensland Government’s Great Skills, Real Opportunities reform action plan
- Encourage and support industry to define the training products it wants
- Assist RTOs to engage with and deliver products suited to their customers.
- Attract, develop and support more instructors who have broad industry experience and are able to inspire students.
- Support the professional development of trainers.
- Ensure that training resources related to agriculture are based on valid, contemporary information about the industry



## Target 6—Increased study of agribusiness in higher education

### Issue

Agriculture needs a knowledgeable and skilled workforce equipped with the expertise to engage with industry and carry it into the future. Universities are well placed to be leaders in the development and delivery of relevant education to industry. Course content, presentation of coursework and delivery modes needs to be influenced by industry to enhance their relevance to enterprises wishing to increase production and sustainability.

### Goals

- Encourage universities to include a greater level of applied practice, work experience and experiential knowledge in teaching activities related to agriculture.
- Encourage universities to nurture attributes that underpin success in research, extension, agribusiness and managerial roles.
- Promote strong links between institutions and industry (domestic and international), research organisations and global businesses. This will develop the institutions' understanding of contemporary industry issues and related requirements in technology, research and development and information.
- Advocate for university ranking and funding to be based more on quality of teaching, student outcomes and benefits to industry than the output of publications.
- Support inspirational lecturers.
- Encourage universities to offer short courses on specific industry skill sets.
- Support masters degree and doctorate projects that can benefit the industry.



## Target 7—Greater innovation in industry

### Issue

Enterprises need highly skilled, educated and experienced people to help them introduce new technologies and access current information. Ongoing informal education through short courses, extension programs and self-directed study creates a culture of lifelong learning. On-farm trials, problem-solving and discussion groups with peers can help promote new theories, tools and processes.

### Goals

- Acknowledge and value non-accredited training and professional development, specifically around targeted extension programs.
- Encourage enterprises to train and develop all their staff, especially in new technologies. This reduces the perceived (or real) threat of new technology affecting job security, and leads to a workforce that is positive about change. It also reduces the tendency for workers to maintain a personal monopoly on skills and knowledge to protect their positions.
- Foster conditions and attitudes that encourage innovation such as the introduction of new technologies and the use of new information or practices. This in turn creates new jobs and skills—it reflects the benefits of and the need for constant upskilling.
- Promote innovative industry members and provide avenues for continued study or investigation of new technologies.
- Develop and promote case studies showcasing innovative enterprises that are successfully training staff in new technologies and using these to improve farm productivity, sustainability and resilience.
- Support businesses in implementing continuous improvement through training and professional development for staff. Encourage them to treat the cost of training as an investment rather than an expense.
- Value experiential learning and facilitate dissemination of information.



# Agreed higher level actions

The *Queensland plan* reflects a shared vision for Queensland for the next 30 years and sets a road map for future growth and prosperity. This blueprint has identified key areas that contribute to the implementation of this road map. They include:

- valuing education as a lifelong experience
- valuing and investing in local workers and businesses
- capitalising on unique regional opportunities by focusing on industry development and diversification
- reaching our full potential
- managing our natural resources effectively
- attracting bright minds to Queensland.

The following 10 actions encapsulate the priorities identified by stakeholders for DAFF and industry collaboration and investment over the next 5 years to grow Queensland's agricultural workforce in size and collective capability.

1. Promote agriculture as a viable, sustainable and growing industry and as an industry of choice for Queensland's workforce.
2. Facilitate better links between the education sector and industry so that the true story of agriculture's success (including scientific assessment to counteract negative assumptions where appropriate) is known and understood.
3. Support the inclusion of more current and relevant agriculture-related curriculum resources and learning experiences in schools and increase the number of schools using these resources.
4. Improve the quality and relevance of outcomes from vocational education and training.
5. Enhance higher education outcomes through increased funding, better industry links and more opportunities to experience working in the industry.
6. Provide the latest research and development outcomes and advances to the education sector.
7. Encourage greater entrepreneurship, business growth and use of new technologies and innovation to improve productivity.
8. Ensure the supply of inspirational and high-quality (current and informed) teachers, trainers and lecturers in our schools, colleges and universities.
9. Influence relevant funding opportunities so that these actions can happen.
10. Grow industry endorsement and commitment to the above high level actions.

For more information  
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or call 13 25 23