



THE BUSINESS OF COTTON FARMING

The story of a modern, sustainable agricultural industry that's helping to clothe the world. Cotton Australia's Cotton Education Kit provides current, authoritative information for all teachers and students, and includes:

- Targeted Australian Curriculum outcomes for Years 7-12, and outcomes for Years 11-12 from NSW, QLD, SA, WA, NT & ACT syllabi in each of its 10 chapters.
- Case studies and multimedia that are embedded in the Kit. Additional school resources, lessons and worksheets are found online in the Cotton Classroom.



Cotton Classroom

THE NATURE OF A COTTON FARM BUSINESS

GOALS OF A COTTON FARM BUSINESS

Because in most cases a cotton farm is not just a cotton farm, but grows other crops and often grazes sheep, beef or other livestock, the goals of a cotton enterprise vary from farm to farm. Goals could include:

- To be part of a world-class agricultural industry that's sustainable, valued for its economic and social contribution, and produces very high-quality cotton in demand around the world.
- To provide a reliable income and good standard of living for their family and staff
- To grow high yielding cotton crops (so that there's more cotton to sell at the end of the season).
- To grow high quality cotton crops (to attract premium prices on the world market).
- To maximise profits across the farm operation.
- To keep operating costs to a minimum.
- To run an efficient operation.
- To ensure a safe working environment for staff and contractors.
- To minimise impacts on the natural environment.
- To contribute to their local economy and community making rural towns better places to live.

All cotton farm businesses are different. There are large corporate farms, small family farms,



publicly listed cotton agri-businesses, and a mix of everything in between.

The average Australian cotton farm:

- Is family owned and operated;
- Directly provides employment for nine people;
- Grows 576 hectares of cotton, comprising 10% of the total farm area;
- Is run by experienced farmers with an average age of 47 years;
- Grows other crops and often grazes sheep and cattle;
- Includes natural areas – such as native vegetation and riparian zones – ranging from between 10 to 40% of property area.

STAKEHOLDERS IN A COTTON FARM BUSINESS

- Family
- Workers-full-time and part-time
- Contractors (for example, supply picking, aerial work, transport companies and agronomy services)
- Financial institutions (banks, financiers)
- Accountants
- Lawyers
- Cotton marketing organisations
- Ginning companies
- Rural supply companies (seed, fertiliser, machinery, fuel)
- Governments that regulate the business of farming
- International customers (e.g. spinning mills, consumers)



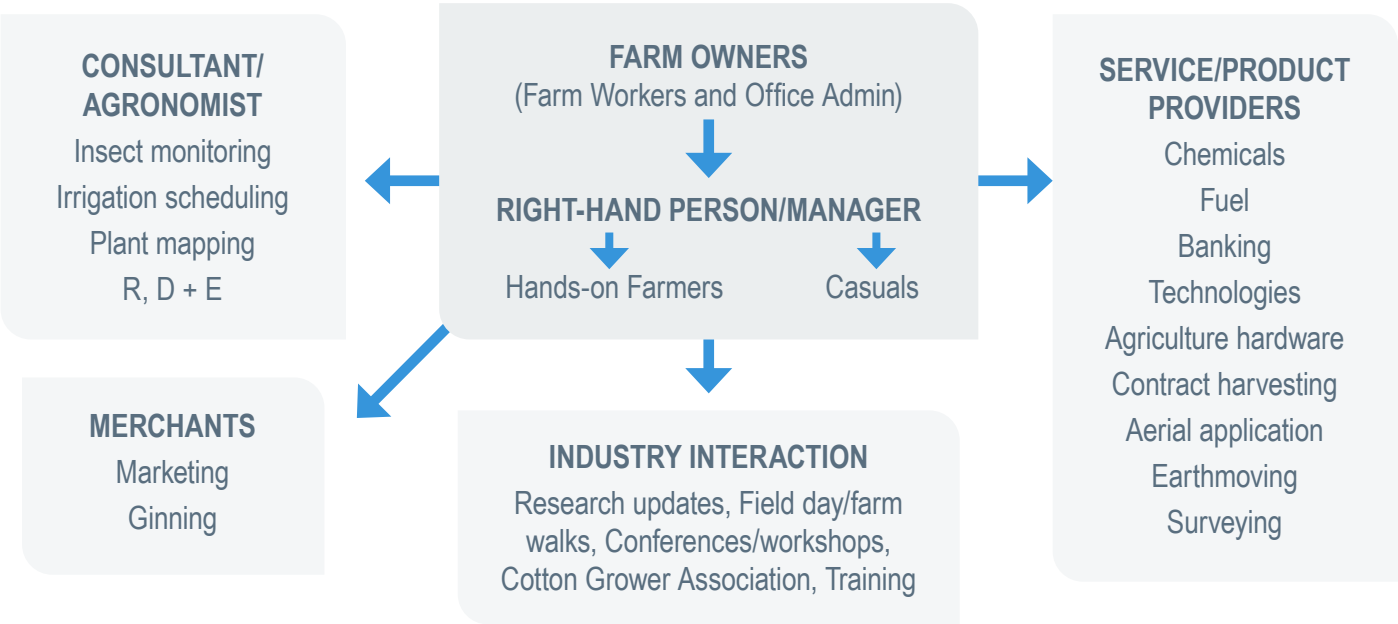
COTTON GROWERS HAVE A LOT ON THEIR MIND!

- | | | |
|--------------------------------------|-------------------------------|-------------------------------|
| ● Workplace health and safety | ● Transporting the crop | ● Crop selection and rotation |
| ● Weeds and diseases | ● Profitability | ● Commodity markets |
| ● Access to education | ● Sustainability | ● Government regulations |
| ● Equipment maintenance and upgrades | ● Finding workers | ● Energy costs |
| ● Succession planning | ● Ginning contracts | ● Scheduling irrigations |
| ● Training | ● Weather | ● myBMP |
| ● Pests, weeds and diseases | ● Yields | ● Insurance |
| ● New varieties | ● High quality crops | ● Drought, floods |
| ● Health and mental health | ● Cotton industry commitments | ● Time for family |
| | ● Interest rates and finance | ● Consumer demand |

ORGANISATIONAL STRUCTURE

While every farm is different, the following charts gives an indication of the types of structures typical in a family-owned and operated Australian cotton farm (this forms most of the industry) and also a corporate farm.

FAMILY FARM STRUCTURE



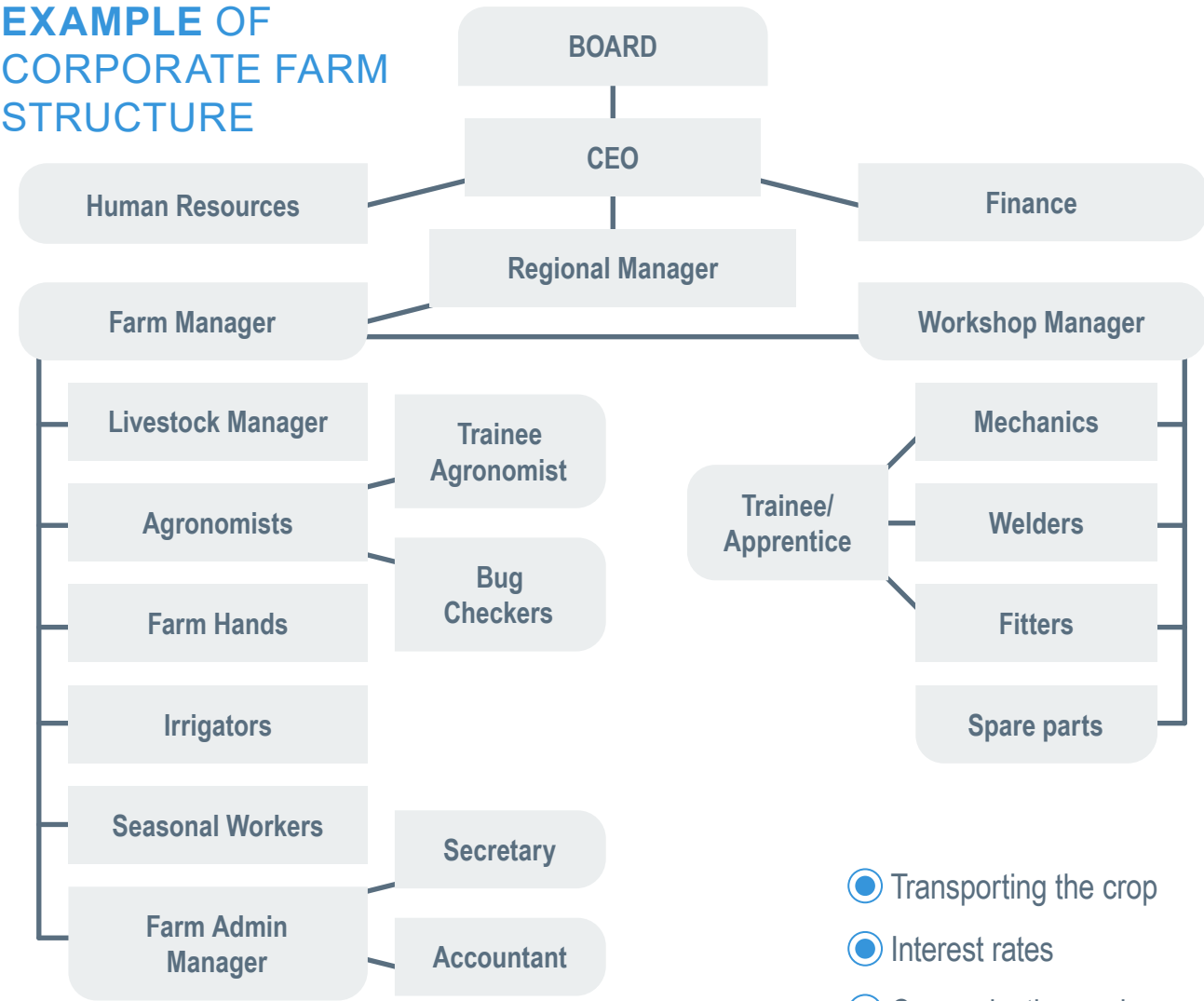
Farming duties: GPS, irrigation, planting, cultivating, payroll, budgeting, plant operation, workshop, accounts, chemical application, WHS, human resource management, infrastructure repair and maintenance (channels, gates, roads, pumps etc.).



Factors to consider when growing a cotton crop.

Cotton is a difficult crop to grow well and requires experienced farmers who pay lots of attention during the season. Cotton growers need to take into consideration a large range of factors to produce high yielding, high quality cotton that is water efficient and can be sold for a top price. They must be great planners, innovators, managers and decision makers.

EXAMPLE OF CORPORATE FARM STRUCTURE



- Considerations include:
- Government regulations
 - Weather
 - Sustainability
 - Increased input costs
 - High quality crops
 - Occupational health and safety
 - Weeds and diseases
 - Business management
 - Succession planning
 - Technology upgrades
 - Pest control
 - Managing contractors
 - Marketing
 - Yields
 - Consumer demand
 - Disease control
 - Farm labour
 - Ginning contracts
 - Training
 - Equipment maintenance and upgrades
 - Farm hygiene
 - Time for family
 - Community
 - Transporting the crop
 - Interest rates
 - Crop selection and rotation
 - Commodity markets
 - New varieties
 - Health and mental health
 - Energy costs
 - Climate change
 - Finance
 - Insurance
 - Access to rural doctors
 - Access to education
 - Drought, floods

THE MAIN BUSINESS FUNCTIONS OF A COTTON FARM

FUNCTION AND FACTORS TO CONSIDER:

SETTING UP THE FARM FOR COTTON PRODUCTION

- Costs associated with irrigation infrastructure, laser levelling of fields etc.
- Commitment to cotton production – it's a difficult crop to grow and the farmer must be equipped with knowledge and know-how in order to make it work from a business perspective.

FINANCING YOUR CROP

- Relative to other summer crops, the costs of growing cotton is higher.
- Farm budgeting is essential.
- Finance must be arranged with banks/ lending organisations or arrange for crop credit well prior to planting (before ordering seed).
- Hail presents a significant risk to summer crop production, including cotton. This may affect the financial position in relation to growing costs and marketing positions. It is important that hail insurance coverage is discussed with an experienced broker in cotton insurance.

OPERATIONS

- The cost of production
- Inputs and outputs
- All of these must be carefully budgeted and planned for

HUMAN RESOURCES

- Attracting and retaining staff
- Engagement and conditions of employment and management
- Training
- Safety
- Working with contractors
- Relationships with neighbours

SELLING THE CROP/MARKETING

- Cotton has unique marketing parameters based around fibre quality
- Premium and discount sheets should be discussed with an experienced cotton merchant/marketer
- Current state of the world market for cotton (supply and demand)
- Current world prices
- Forward-selling of cotton crops can occur before crops are sown, up to three years in advance – this needs to be planned for

HUMAN RESOURCE MANAGEMENT

The cotton industry's labour force is critical to sustaining the industry's competitive advantage. Innovative, resilient and adaptive people, businesses and communities are crucial to the future success of the industry and needs to be supported by processes for attracting, retaining and developing people.

The cotton industry's labour force takes into account on-farm labour, as well as the service industry and supply chain, which represent an



extensive network of input and advisory providers that support cotton farmers such as agronomists, researchers, consultants, agribusiness, State government agencies, Cotton Australia, CSIRO, and universities. The dynamics of the industry's labour force varies depending on factors such as season, location and business size.

The Australian agriculture sector is currently experiencing a labour and skills shortage, driven by an aging workforce, low attraction rates and strong competition from the resource sector. This is being felt in the cotton industry, which is facing the challenge of attracting and retaining core staff, on-farm labour (unskilled and skilled), and access to professional advisers and service providers.

The problem has recently been driven by rapid expansion of the industry following years of drought, and the resources boom in some regions. Other factors such as poor public perception/image of rural towns, lifestyle and work are also thought to contribute to the problem.

Given the current skills and labour shortages,

many growers are relying on overseas workers to fill gaps. Overseas workers have played a small but important part in the Australian agricultural industry for quite some time, helping farmers at peak times when local labour is difficult to access.

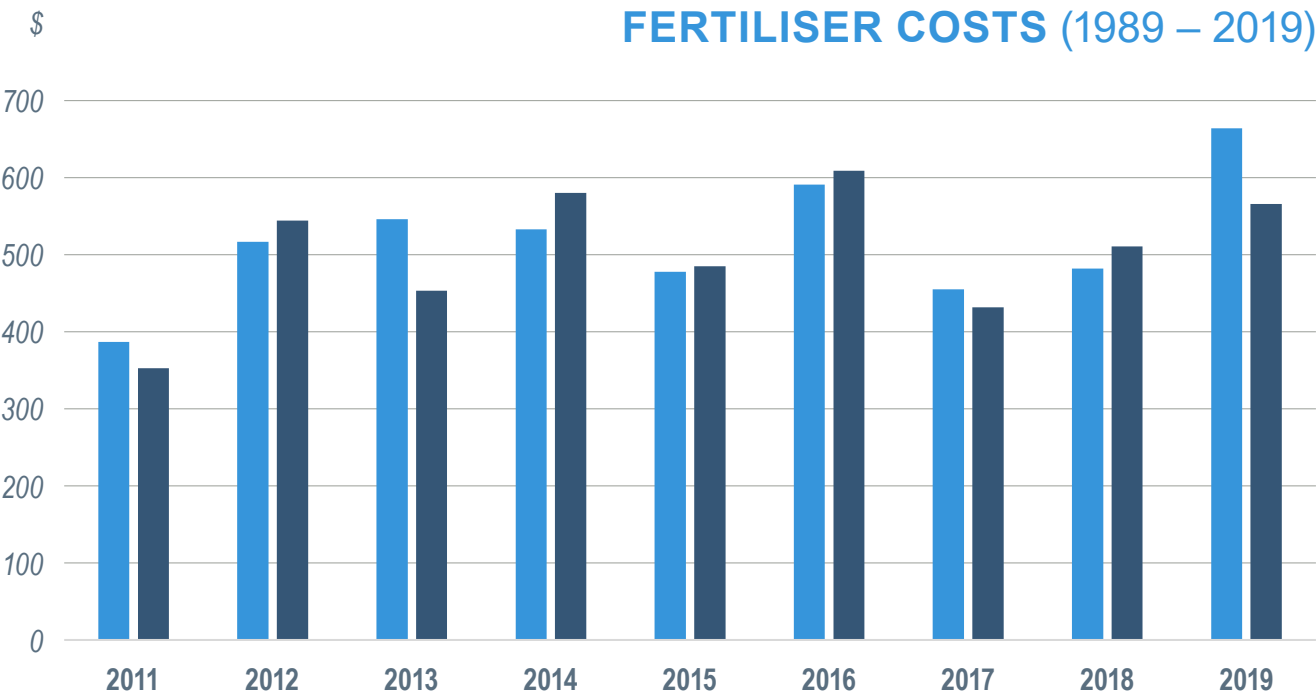
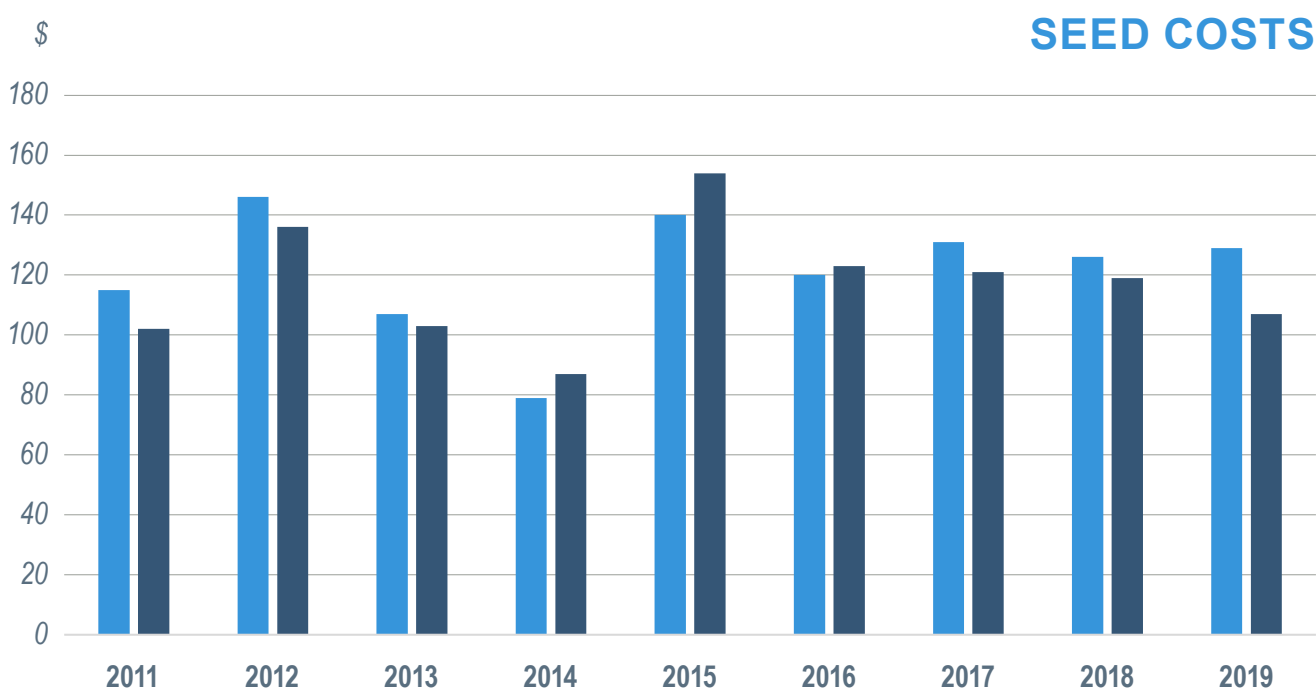
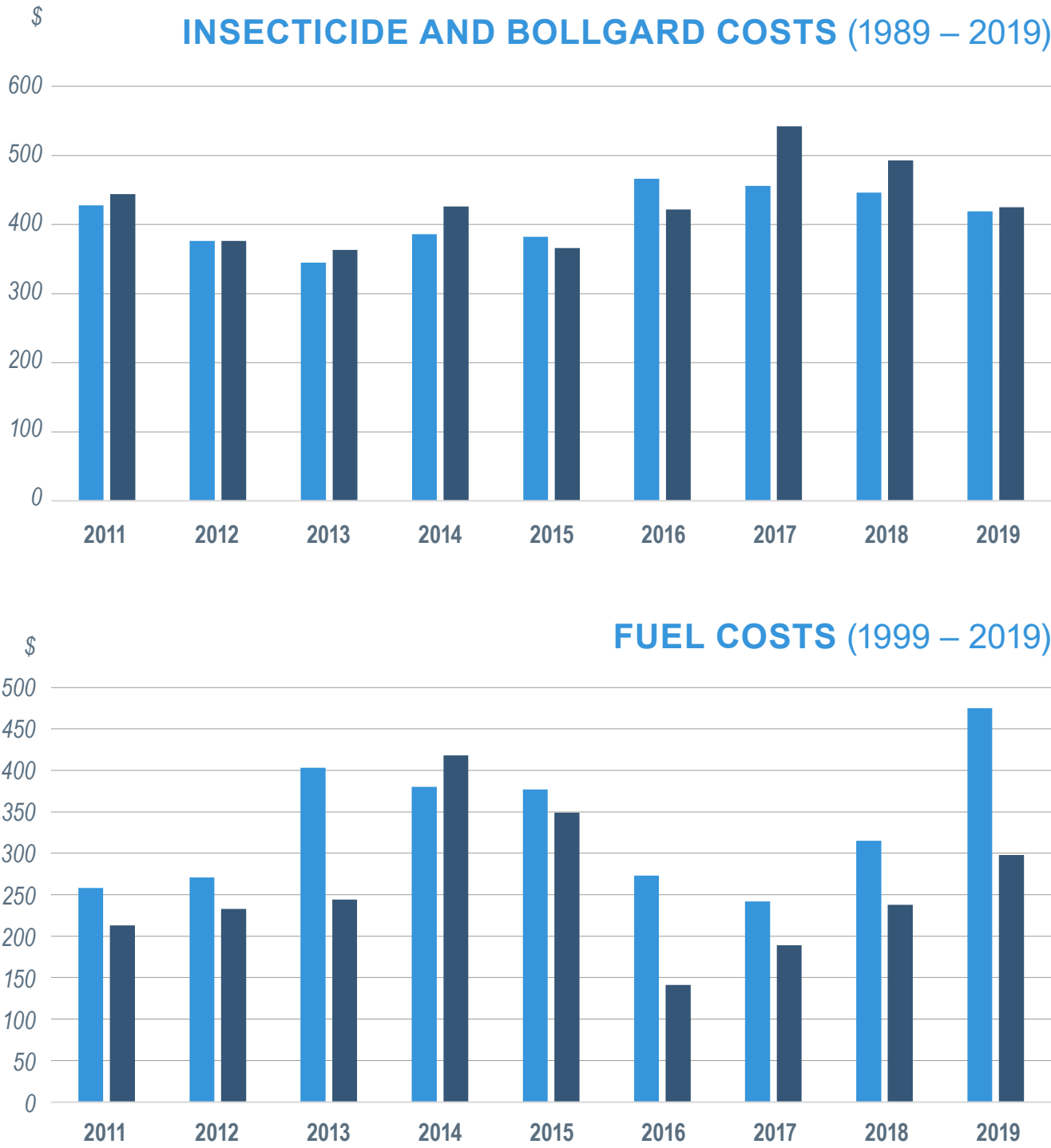
Whilst skilled migration can deliver labour for emerging shortages in short time frames, it can only complement Australia's domestic training arrangements which must deliver the backbone of Australia's skilled labour needs. For the cotton industry, a commitment to our local workforce and communities remains a priority.

Cotton growers attract employees using a range of tools including word-of-mouth, employing school students as schools-based trainees, using recruitment specialised labour hire companies and internet-sites such as gumtree.com.au or head-hunting promising employees. They use a range of strategies to retain staff which may include attractive salary packages, training, flexible working arrangements, mentoring, opportunities to have a stake in the business and/or promotion.

THE COST OF PRODUCTION

Cost of production is a very important factor in making a cotton farm business profitable. Cotton growers work hard to minimise their costs of production in order to maximise profits. Unfortunately, the cost of production is continually on the rise and this, coupled with the fact that Australian cotton growers pay premium prices for inputs (due to geographic isolation) means that growers need to always be looking for ways of becoming more efficient. Rising costs of production is a major issue facing Australia's cotton growers.

Below are a series of graphs illustrating the rising costs of production for Australia's cotton growers.



COLOUR KEY

- Average for all growers
- Top 20%

OPERATING COSTS & PROFITS


To manage costs of production, cotton growers develop detailed farm budgets that cover operating costs and expected profits. These are based on experience and historical data, local information as well as information provided by the cotton industry and government departments. Costs vary year to year, and even season to season, so these budgets need to be updated regularly to make sure everything is on track for a profitable season.


The graphs on this page show some data relating to operating costs and profits for an average Australian cotton farm. Please note however that numbers vary widely from farm to farm.

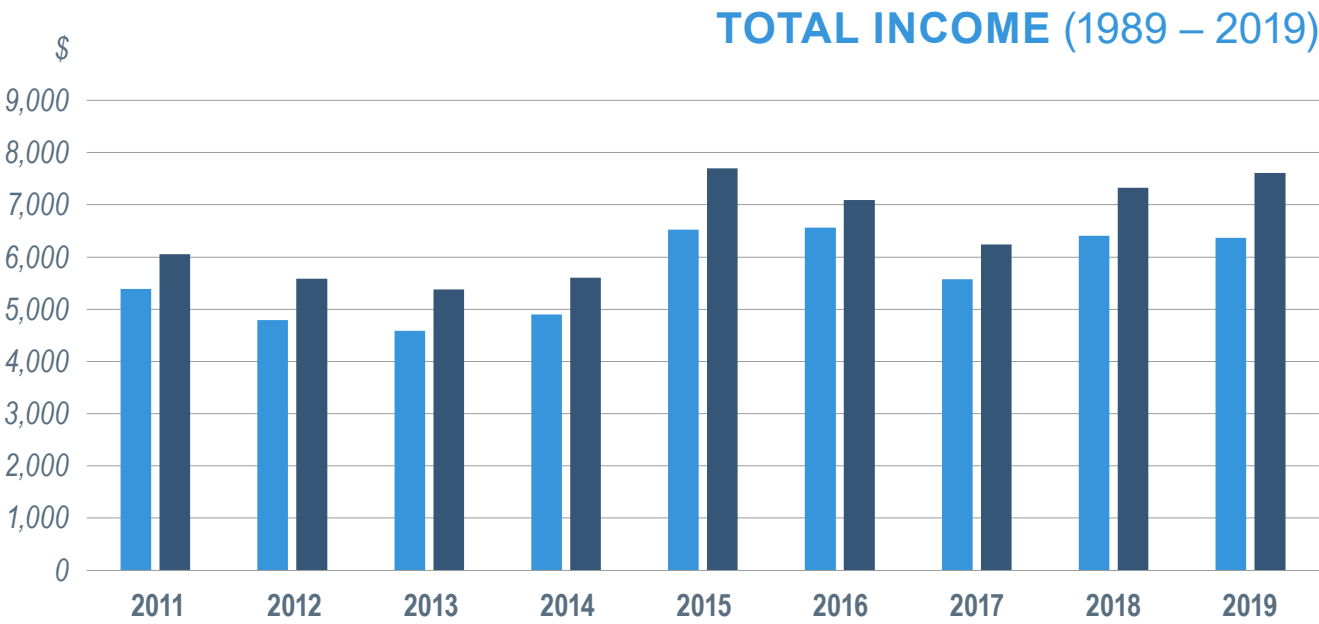
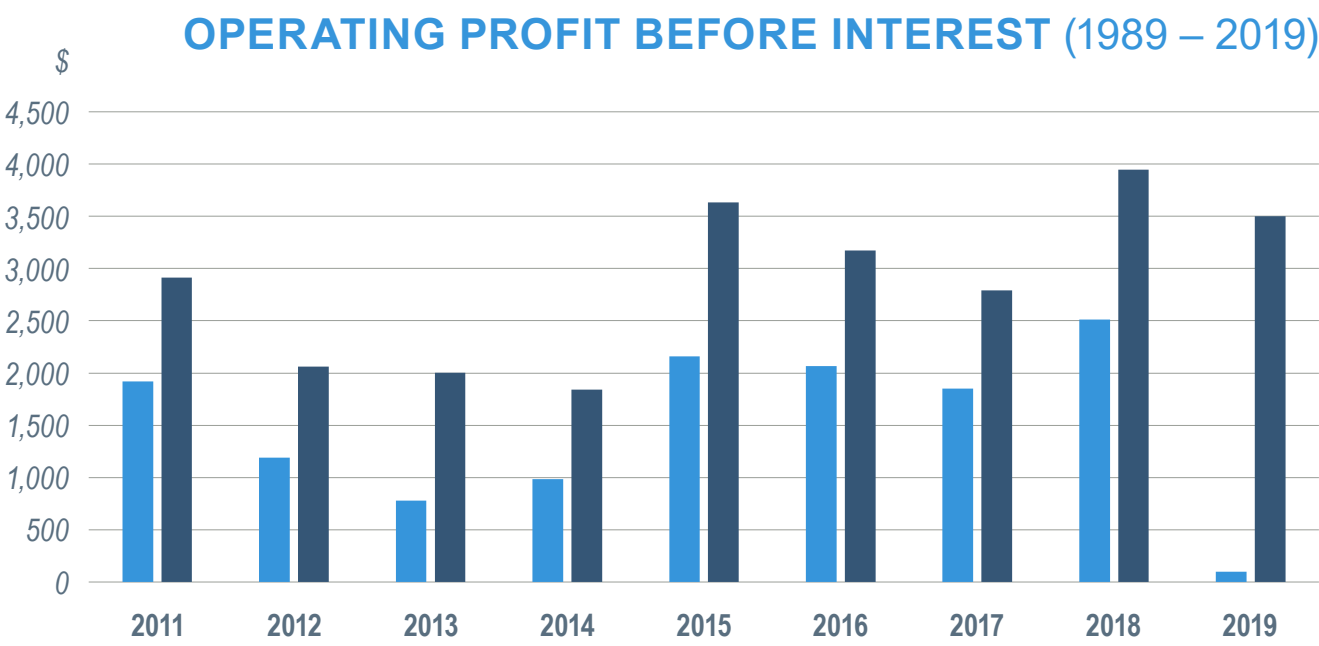
THE AVERAGE FARM CASHFLOW PERFORMANCE:

| | |
|------------------------------------------------------------------------------------------------|------------------|
| Gross Income | 5,980,000 |
| Operating expenses | <u>4,290,000</u> |
| Operating surplus | 1,680,000 |
| Interest | <u>310,000</u> |
| Net profit | 1,370,000 |
| Drawings – personal, school fees etc | <u>200,000</u> |
| Balance available for income tax, plant purchases, debt reduction or investment (Seed capital) | <u>1,170,000</u> |



NOTE: above is based on an average crop size of 950 hectares over five years.

 CASE STUDY: 2019 Australian Cotton Comparative Analysis Report from Boyce Chartered Accountants in conjunction with Cotton Research and Development Corporation. The aim of the study is to collect and critically analyse data that will assist the industry to grow and develop sustainably through a focus on best practice techniques. The study is regarded by the cotton industry as the benchmark for the economics of cotton growing in Australia.

 A typical irrigated cotton farm budget for northern NSW from NSW Department of Primary Industries. The type of budget provided in this section is the gross margin budget. These farm enterprise budgets provide a guide to the relative profitability of similar enterprises and an indication of the different management practices used. The aim of these budgets is to provide producers with an additional planning tool to help evaluate options. The budgets presented are meant to be a projection of price expectations in the near future, rather than a statement of the recent past.



COLOUR KEY

-  Average for all growers
-  Top 20%

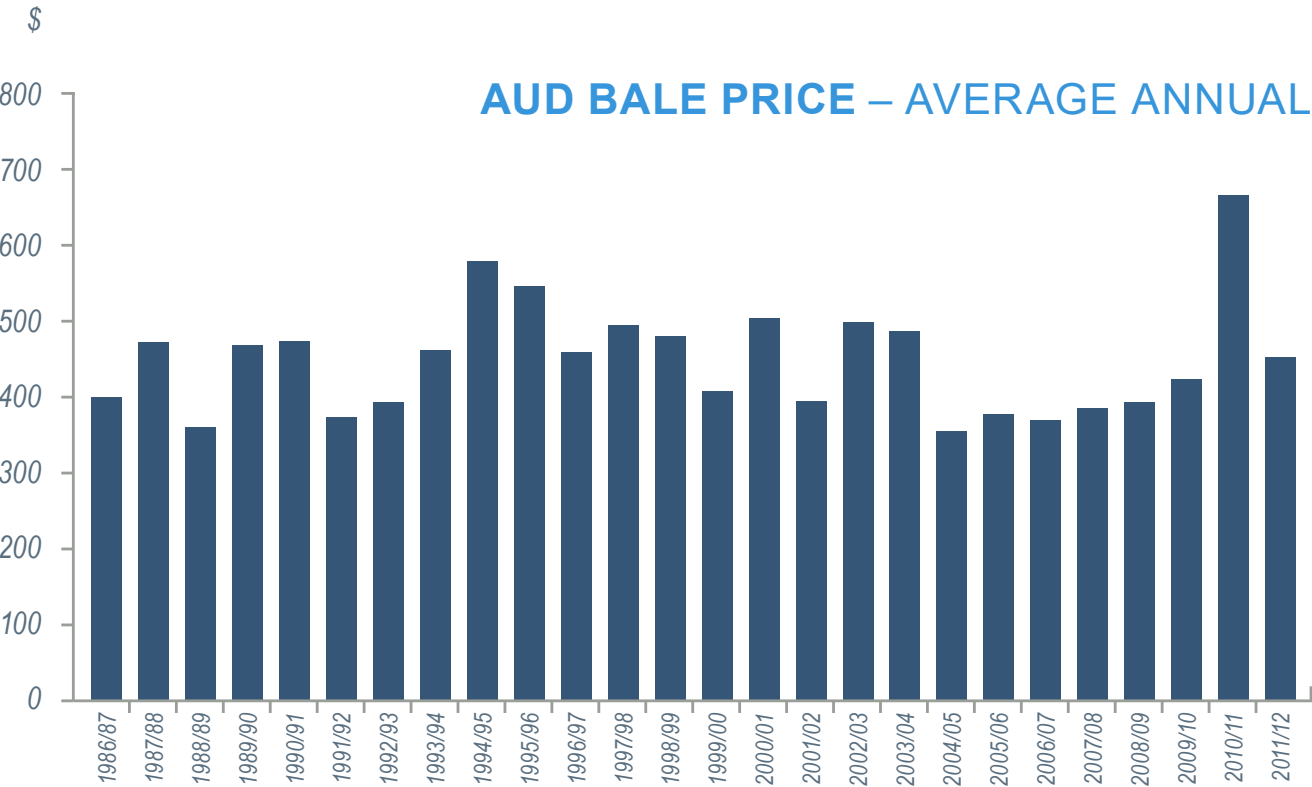


PROFITABILITY

For the cotton farm to be profitable, the grower needs to maintain high yields and minimise costs. That means farming carefully by constantly monitoring water needs and use, pest numbers and soil quality. It also means developing and implementing good marketing strategies for selling cotton into the world market. There is an increasing demand for cotton produced from sustainable farms. For irrigated cotton, the availability and cost of water is one of the key factors influencing profitability.

WORLD PRICES

World prices for cotton fluctuate daily according to world demand and supply, and can vary from season to season between approximately \$350 and \$600 per bale for Australian cotton.



MARKETING

Australian cotton is sold as a commodity into the world textile market. It is marketed under a competitive system with several major international and local cotton merchants operating in Australia. The majority of cotton growers sell their cotton to one or more of these independent merchants who then on-sell it to the world market. Cotton growers have a range of options, including:

- Sell directly to a merchant or ginner (also known as a processor). The grower sells the cotton before it has been processed. The merchant or ginner then sells and ships the seed and lint. Most Australian cotton is sold this way.
- A few growers deliver to a ginner who retains the cottonseed, with the grower receiving the lint to be sold separately via international markets, or the grower retains ownership of both cottonseed and lint and, after paying a processing fee, sells both cottonseed and lint independently.

PRICE OPTIONS

A number of factors influence the price of cotton. These include the amount of cotton available for purchase globally (i.e. how much cotton growers supply to the market) and the quantity of cotton that the global textile market processors needs (i.e. the amount they demand). The price is also dependant on the futures price on the New York Stock Exchange and the exchange rate of the US dollar. Cotton produced sustainably can increase its marketability and value.

Farmers can choose to sell their cotton lint in several ways:

1. Cash market — The price of cotton on world markets fluctuates daily. When growers have cotton ready for sale, they can sell it at the daily or 'spot' price.
2. Forward contract — Using the cash market involves a certain amount of price risk, i.e. that the spot price may fall when the grower is ready to sell. To help insure against this risk, the grower can negotiate a forward contract with a buyer. This agreement sets out the price, quantity and quality of cotton the grower has to deliver on a specified future date. Therefore, the grower can know how much the crop can be sold for even before it has been planted.
3. Seasonal pool — Growers commit a certain proportion of their cotton production to a pool of cotton. An agent is responsible for selling the cotton in the pool on behalf of all the growers. The price received by the growers for their cotton is the average of all sales made from that pool in that season.
4. Minimum price pool — ensures that the farmer gets at least the seasonal pool price. If the prices go higher growers receive higher fees.
5. Call pool — farmers must promise an amount of cotton for the pool but this cotton can be traded using 'futures' and 'options' methods of sale, where amounts traded are simply written down as potential sale orders on paper.
6. Balance of crop – bales not sold using any of the above methods are sold at an agreed price.

COTTONSEED MARKETING

Cottonseed is marketed separately to the fibre. Growers have two options when selling their seed:

1. They may sell it to a company that has a 'seed pool' (a stockpile of seed purchased from a number of different growers). This type of company either sells the seed as stock feed or crushes it to make oil.
2. Growers can sell their seed to small private traders who on-sell the seed here in Australia or overseas.

Some growers grow a portion of their crop purely for planting seed — the seed used to plant future crops. Planting seed is specially grown under contract to seed companies. The emphasis is on producing healthy, high quality seed rather than lint. Growers must ensure that there is no contamination by weeds or cross breeding with other varieties of cotton. These crops are picked and ginned separately to maintain purity in the different varieties.



Cotton that is produced and processed in Australia will attract the cotton levy. Department of Agriculture, Water and the Environment.



Fact Sheet: The Economics of Cotton in Australia.

Cotton seed is removed from cotton a gins (source: Southern Cotton).



THEMES AND AUSTRALIAN CURRICULUM
OUTCOMES FOR SECONDARY SCHOOL

The Cotton Education Kit has been linked to the Australian Curriculum for Years 7-10, and targeted outcomes for Years 11 -12 from all state & territory curriculums across Australia. A list of themes is provided for teachers as a quick guide to assist linking the content to their unit of work or syllabi in their state or territory.

A full list of the individual syllabuses that have been mapped against the Cotton Education Kit can be found in the Cotton Classroom.



CHAPTER SIX THEMES

- The Cost of Production
- Pricing and Marketing
- Cotton Seed Marketing

CHAPTER SIX
CURRICULUM OUTCOMES

| Curriculum | Course | Chapter 6: The Business of Cotton Farming |
|---------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------|
| Australian Curriculum | Year 7 Economics and Business | ACHEK017 (consumers and producers) |
| Australian Curriculum | Year 9 Economics and Business | ACHEK041 (competitive advantage) |
| State / Territory | Senior Secondary Course | |
| New South Wales (HSC) | Agriculture Life Skills (2018) | ALS6 |
| | Business Studies (2010) | P1 P2 P3 P4 P6 P10 H2 H3 H5 H10 |
| | Design and Technology (2013) | P5.1 P5.2 P5.3 H5.1 H5.2 |
| | Economics (2009) | P2 H1 H2 |
| | Industrial Life Skills (2018) | ITLS 8 |
| | Textiles and design (2013) | P5.1 H5.1 |
| Victoria (VCE) | Business Management (2017) | Unit 2 AoS 2 Marketing a business |
| Queensland (QCE) | Agricultural Practises (Applied) (2019) | E4.2 E6.3 E6.4 |
| | Agricultural Science (General) (2019) | Unit 2: Topic 3 Unit 4: Topic 1 |
| | Business studies (Applied) (2019) | BF1 BF3 BF4 |
| | Economics (General) (2019) | Unit 1: Topic 3 |
| Western Australia (WACE) | Business Management and Enterprise (ATAR) (2015) | Unit 1: Marketing |
| | Business Management and Enterprise (General) (2015) | Unit 1: Marketing |
| | Plant Production Systems (General) (2017) | Unit 2: Economics, finance and markets. Unit 3: Economics, finance and markets |
| | Plant Production Systems (ATAR) (2017) | Unit 2: Economics, finance and markets. Unit 3: Economics, finance and markets |
| South Australia / Northern Territory (SACE) | Agricultural Production Stage 2 (2021) | Topic 4: Agribusiness |
| | Business innovation Stage 1 (2020) | Existing business: problem solving |
| | Business innovation Stage 2 (2020) | Transforming business: Innovation |
| Tasmania (TCE) | Agricultural Enterprise (2019) | Unit 3: Agricultural Enterprise |
| | Business Studies (2016) | Unit 5: Marketing management |
| ACT (ACT SSC) | Agriculture A/M (2017) | Farm Management & Regional Agriculture |
| | Business A/T/M (2017) | Relationship Management: Marketing |
| | Economics (2017) | Unit 1b: Economics |

KEY LINKS



Cotton Australia.



360-degree digital film of a cotton farm, the latest addition to Cotton Australia's suite of educational resources informing city and country residents about the Australian cotton industry.



Google Arts & Culture



Australian Cotton



Cotton Research and Development Corporation



Cotton Seed Distributors



CottonInfo



Primezone: Primezone provides teachers and students with access to the latest quality primary industries education resources

