

## AgTrends update

### April 2017

#### At a glance

#### Recent Cyclone Debbie impacts cause downward revisions

Overall, the direct economic impact of Severe Tropical Cyclone Debbie on agriculture is estimated to be in the vicinity of \$450 million. Effects were felt across a very large proportion of the state but were particularly severe in Mackay, Isaac and Whitsunday (where the cyclone first crossed the coast), inland in the Clarke Creek area north of Duaringa in the Fitzroy River catchment, and in the catchments of the Gold Coast Hinterland and the Scenic Rim in South East Queensland. In other areas of Queensland, there were the isolated flood impacts to crops and infrastructure near creeks and rivers that are expected following major rainfall.

These impacts—destroyed crops from waterlogging, yield reductions, quality downgrading and more—are captured in the April revisions to the 2016–17 forecasts of gross value of production (GVP). The major impacts include:

- \$100 million in vegetable crop losses in Bowen, plus forecast yield reductions for next year's mango crops
- \$139 million in lost sugar production in the Proserpine and Mackay mill areas (which will appear in next year's forecast for the 2017 crop)
- \$68 million in lost production and infrastructure damage, especially to buildings and fencing, for beef producers in the Clarke Creek area (a loss nearly 1.5 times the GVP for beef for that area)
- \$10 million damage in lost stock and infrastructure to turf farms and nurseries along the Albert and Logan rivers, with deep flooding in nurseries that were thought to be out of the flood zone.

However, while most of Central Queensland and eastern Queensland received substantial rainfall this autumn, many of the beef grazing regions in the west and north-west are experiencing dry to extremely dry conditions.

#### Total value of Queensland's primary industries

In April 2017, the total value of Queensland's primary industry commodities for 2016–17, comprising GVP at the farm gate and first-stage processing, was forecast to be \$19.95 billion. This forecast is similar to the October 2016 estimate of the Department of Agriculture and Fisheries (DAF)<sup>1</sup> but 20% greater than the average for the past 5 years.

<sup>1</sup> In February 2015, the Queensland Department of Agriculture, Fisheries and Forestry (DAFF) was renamed the Department of Agriculture and Fisheries (DAF). Therefore, forecasts and estimates made before February 2015 were made by DAFF, but later ones were made by DAF.



## GVP at the farm gate

In April 2017, the 2016–17 GVP of Queensland’s primary industry commodities at the farm gate was forecast to be \$15.54 billion. This forecast is similar to DAF’s initial estimate for 2016–17 but 20% greater than the average for the past 5 years.

Forecasts that have been revised **up** from previous forecasts for 2016–17 are those for:

- sunflowers (500%)
- maize (44%)
- wheat (40%)
- wool (18%)
- cotton (13%)
- apples (10%)
- barley (7%)
- mangoes (4%)
- sugar cane (3%)
- cut flowers (3%)
- poultry (1%)
- production nurseries (<1%).

Forecasts that have been revised **down** from previous forecasts for 2016–17 are those for:

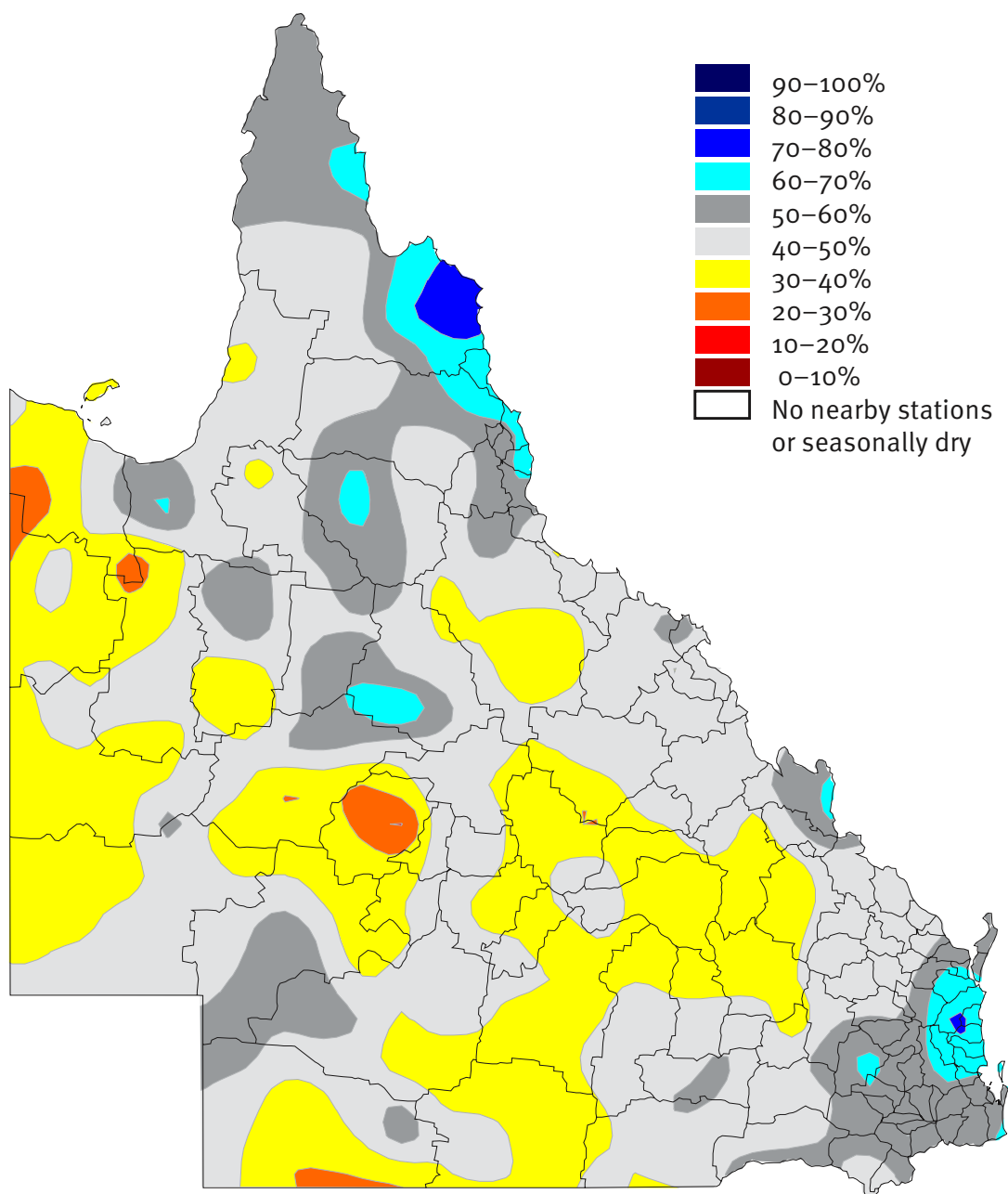
- mung beans (85%)
- peanuts (45%)
- grain sorghum (36%)
- crustaceans (22%)
- aquaculture (20%)
- sweet corn (18%)
- tomatoes (16%)
- beans (15%)
- soybeans (15%)
- capsicums and chillies (14%)
- mandarins (12%)
- pumpkins (12%)
- zucchinis and button squash (7%)
- pineapples (5%)
- turf (3%)
- chickpeas (3%)
- eggs (2%)
- bananas (2%).

## First-round processing

The value of first-stage processing (or value-added production) for 2016–17 is forecast to be \$4.41 billion.

## Climate outlook for November 2017 to March 2018

The Department of Science, Information Technology and Innovation (DSITI) monitors sea surface temperature (SST) anomalies in key regions of the Pacific Ocean over autumn, winter and spring, and provides objective outlooks for summer (November to March) rainfall on this basis. The Science Delivery division of DSITI considers that, for next summer (November to March), rainfall probabilities are near normal for much of Queensland.



**Figure 1** The chance of exceeding the median rainfall in May–July 2017, based on a rapidly falling phase during March–April

Source: National Climate Centre, <<http://www.longpaddock.qld.gov.au>>.

## Primary industries estimates and forecasts

The GVP, first-round processing and total primary industries estimates and forecasts are provided in Table 1.

**Table 1** GVP, first-stage processing and total primary industries estimates and forecasts, 2014–15 to 2016–17, and difference between 2016–17 forecast and average for the past 5 years

	2014–15 <sup>b</sup> (\$m)	2015–16 <sup>b</sup> (\$m)	2016–17 forecast, October 2016 <sup>c</sup> (\$m)	2016–17 forecast, April 2017 <sup>c</sup> (\$m)	Change from October 2016 to April 2017 forecast (%)	Average of past 5 years (\$m)	Difference between 2016–17 forecast and average of past 5 years (%)
<b>Commodity GVP<sup>a</sup></b>							
<b>Livestock</b>							
<b>Livestock disposals</b>							
Cattle and calves	5 076	5 660	5 087	5 087	0	4 265	19
Poultry	588	610	619	624	1	512	22
Pigs	270	315	333	333	0	253	32
Sheep and lambs	66	69	62	62	0	60	3
Other livestock	44	43	40	40	0	40	0
<b>Total livestock disposals</b>	<b>6 044</b>	<b>6 697</b>	<b>6 141</b>	<b>6 146</b>	<b>0</b>	<b>5 130</b>	<b>20</b>
<b>Livestock products</b>							
Milk (all purpose)	235	222	233	233	0	235	-1
Eggs	202	204	217	212	-2	188	13
Wool	61	55	56	66	18	83	-21
<b>Total livestock products<sup>d</sup></b>	<b>498</b>	<b>481</b>	<b>506</b>	<b>511</b>	<b>1</b>	<b>498</b>	<b>3</b>
<b>Total livestock</b>	<b>6 542</b>	<b>7 178</b>	<b>6 647</b>	<b>6 657</b>	<b>0</b>	<b>5 627</b>	<b>18</b>
<b>Horticulture</b>							
<b>Fruit and nuts</b>							
Bananas	538	580	584	572	-2	521	10
Other fruit and nuts	224	248	268	264	-1	199	33
Avocados	148	151	225	225	0	150	50
Strawberries	203	180	144	144	0	166	-13
Macadamias	76	120	140	140	0	71	97
Mandarins	86	94	122	107	-12	78	37
Mangoes	58	75	92	96	4	66	46
Apples	58	82	82	90	10	60	51
Pineapples	53	71	74	70	-5	70	1
Table grapes	52	53	53	53	0	45	19
<b>Total fruit and nuts</b>	<b>1 496</b>	<b>1 654</b>	<b>1 784</b>	<b>1 761</b>	<b>-1</b>	<b>1 426</b>	<b>24</b>
<b>Vegetables</b>							
Tomatoes	273	294	298	250	-16	273	-9
Other vegetables	201	217	221	220	0	227	-3
Capsicums and chillies	153	142	154	132	-14	146	-9
Beans	88	79	85	72	-15	88	-18
Mushrooms	70	70	70	70	0	61	15

continued

Table 1 continued

	2014–15 <sup>b</sup> (\$m)	2015–16 <sup>b</sup> (\$m)	2016–17 forecast, October 2016 <sup>c</sup> (\$m)	2016–17 forecast, April 2017 <sup>c</sup> (\$m)	Change from October 2016 to April 2017 forecast (%)	Average of past 5 years (\$m)	Difference between 2016–17 forecast and average of past 5 years (%)
<b>Commodity GVP<sup>a</sup></b>							
Sweet potatoes	52	62	64	64	0	55	17
Lettuce	54	54	56	56	0	57	-2
Potatoes	63	53	52	52	0	57	-9
Melons (rock melon and cantaloupe)	42	55	50	50	0	40	26
Sweet corn	39	45	50	41	-18	39	6
Zucchinis and button squash	46	41	42	39	-7	44	-11
Pumpkins	26	33	34	30	-12	25	22
Melons (watermelon)	36	33	31	31	0	35	-11
Carrots	17	25	27	27	0	22	25
Onions	28	25	26	26	0	25	3
<b>Total vegetables</b>	<b>1 188</b>	<b>1 228</b>	<b>1 260</b>	<b>1 160</b>	<b>-8</b>	<b>1 193</b>	<b>-3</b>
<b>Total fruit and nuts and vegetables</b>	<b>2 684</b>	<b>2 882</b>	<b>3 044</b>	<b>2 921</b>	<b>-4</b>	<b>2 598</b>	<b>12</b>
<b>Lifestyle horticulture production</b>							
Nurseries <sup>j</sup>	880	898	898	902	0	876	3
Turf <sup>i</sup>	160	175	185	180	-3	145	24
Cut flowers <sup>j</sup>	151	151	156	161	3	151	7
<b>Total lifestyle horticulture production</b>	<b>1 191</b>	<b>1 224</b>	<b>1 239</b>	<b>1 243</b>	<b>0</b>	<b>1 172</b>	<b>6</b>
<b>Total horticulture</b>	<b>3 875</b>	<b>4 106</b>	<b>4 283</b>	<b>4 164</b>	<b>-3</b>	<b>3 770</b>	<b>10</b>
<b>Other crops</b>							
Sugar cane <sup>e</sup>	1 239	1 141	1 420	1 460	3	1 139	28
Cotton (raw) <sup>f</sup>	383	535	870	985	13	655	50
Other crops <sup>b</sup>	65	59	52	62	20	53	18
<b>Total other crops</b>	<b>1 687</b>	<b>1 735</b>	<b>2 342</b>	<b>2 507</b>	<b>7</b>	<b>1 847</b>	<b>36</b>
<b>Cereal grains</b>							
Chickpeas	117	471	793	767	-3	180	325
Wheat	329	410	360	504	40	401	26
Grain sorghum	486	312	257	164	-36	340	-52
Other cereal grains	129	145	127	19	-85	106	-82
Barley	79	92	70	75	7	62	22
Maize	63	60	64	92	44	54	71
<b>Total cereal grains</b>	<b>1 203</b>	<b>1 490</b>	<b>1 671</b>	<b>1 621</b>	<b>-3</b>	<b>1 141</b>	<b>42</b>
<b>Total crops</b>	<b>6 766</b>	<b>7 331</b>	<b>8 295</b>	<b>8 292</b>	<b>0</b>	<b>6 758</b>	<b>23</b>
<b>Total agriculture</b>	<b>13 308</b>	<b>14 509</b>	<b>14 942</b>	<b>14 949</b>	<b>0</b>	<b>12 443</b>	<b>20</b>

Table 1 continued

	2014–15 <sup>b</sup> (\$m)	2015–16 <sup>b</sup> (\$m)	2016–17 forecast, October 2016 <sup>c</sup> (\$m)	2016–17 forecast, April 2017 <sup>c</sup> (\$m)	Change from October 2016 to April 2017 forecast (%)	Average of past 5 years (\$m)	Difference between 2016–17 forecast and average of past 5 years (%)
<b>Commodity GVP<sup>a</sup></b>							
<b>Fisheries<sup>b, g, h</sup></b>							
Commercial fishing							
Crustaceans	116	104	102	80	-22	113	-29
Finfish	62	65	64	64	0	66	-4
Molluscs	5	4	4	4	0	7	-47
<b>Total commercial fishing</b>	<b>182</b>	<b>173</b>	<b>170</b>	<b>148</b>	<b>-13</b>	<b>186</b>	<b>-20</b>
Recreational fishing	94	94	94	94	0	81	15
Aquaculture	103	111	115	92	-20	102	-10
<b>Total fisheries</b>	<b>379</b>	<b>378</b>	<b>379</b>	<b>334</b>	<b>-12</b>	<b>369</b>	<b>-10</b>
<b>Forestry and logging<sup>b, i</sup></b>	<b>187</b>	<b>243</b>	<b>260</b>	<b>260</b>	<b>0</b>	<b>189</b>	<b>38</b>
<b>Total primary industries (farm gate)</b>	<b>13 874</b>	<b>15 131</b>	<b>15 581</b>	<b>15 543</b>	<b>0</b>	<b>13 002</b>	<b>20</b>
<b>First-stage processing value added<sup>i</sup></b>							
Meat processing <sup>b</sup>	2 318	2 569	2 355	2 357	0	1 986	19
Sugar processing <sup>b</sup>	655	533	830	860	4	620	39
Log sawmilling, timber dressing and plywood and veneer manufacturing <sup>b</sup>	386	501	536	536	0	389	38
Fruit and vegetables processing <sup>b</sup>	226	242	256	246	-4	218	12
Flour mill and feed processing <sup>b</sup>	93	116	130	126	-3	89	42
Milk and cream processing <sup>b</sup>	124	117	123	123	0	126	-2
Cotton ginning <sup>b</sup>	44	61	99	112	13	75	50
Seafood processing <sup>b</sup>	57	57	57	50	-12	56	-10
<b>Total primary industries (first-stage processing)</b>	<b>3 902</b>	<b>4 196</b>	<b>4 386</b>	<b>4 410</b>	<b>1</b>	<b>3 558</b>	<b>24</b>
<b>Total primary industries</b>	<b>17 776</b>	<b>19 326</b>	<b>19 966</b>	<b>19 954</b>	<b>0</b>	<b>16 560</b>	<b>20</b>

a GVP (gross value of production) is defined as the gross value of commodities produced. It is a measure of economic output. In this publication, GVP relates to the output of primary industry commercial operations only. The GVP is the value of recorded production at wholesale prices realised in the marketplace (e.g. cattle sold at saleyards, sugar cane at the mill door, fruit and vegetables at the wholesale market). It is derived by multiplying the output from each primary industry by the average wholesale price paid to producers.

b Australian Bureau of Statistics (ABS) final estimates unless otherwise indicated.

c DAF forecasts.

d Excludes minor commodities such as honey, beeswax and mohair.

e Gross value of sugar cane at mill door.

f Includes value of cottonseed and lint.

g Includes catches from both Commonwealth-managed fisheries (including Torres Strait, Gulf of Carpentaria and East Coast Tuna fisheries) and state-managed fisheries.

h Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) estimates.

i Value added is the value of the output produced minus the costs of the intermediate inputs.

j The value of the lifestyle horticulture sector has been calculated on a gross-turnover basis rather than a value-added basis and therefore will contain some double counting.

k Revised GVP data from DAF's Fisheries group required amendment of previous estimates.

## Primary industry forecasts revised since October 2015

### Livestock

#### Livestock disposals

##### Poultry

###### Forecast

The GVP for poultry for 2016–17 is forecast to be \$624 million, 1% higher than DAF's initial forecast for 2016–17 and 22% higher than the average for the past 5 years.

###### Discussion

The poultry production forecast has been revised marginally upward, reflecting an increase in chicken meat consumption due to relatively low retail prices compared to those of other meats and low feed-grain prices (leading to an increase in slaughterings).

#### Livestock products

##### Eggs

###### Forecast

The GVP for eggs for 2016–17 is forecast to be \$212 million, 2% lower than DAF's initial forecast for 2016–17 but 13% higher than the average for the past 5 years.

###### Discussion

The egg forecast has been revised marginally downward, reflecting an ongoing industry consolidation with a smaller number of larger farms. In addition, although total egg production has an increasing trend over recent years, its current growth is constrained by more farmers switching to free-range practices, which have lower production rates and higher production costs than cage farming. Significant recent increases in retail prices are expected to dampen consumer demand.

##### Wool

###### Forecast

The GVP for wool for 2016–17 is forecast to be \$66 million, 18% higher than DAF's initial forecast for 2016–17 but 21% below the average for the past 5 years.

###### Discussion

The GVP for wool production has been revised upward, reflecting a higher forecast wool clip due to improved seasonal conditions.

### Horticulture

#### Fruit and nuts

##### Bananas

###### Forecast

The GVP for bananas for 2016–17 is forecast to be \$572 million, 2% lower than the October 2016 forecast but 10% higher than the average over the past 5 years.

## **Discussion**

Favourable growing conditions and good yields have resulted in greater banana production than expected; however, wholesale market prices are lower than the October 2016 forecast, resulting in a slightly lower banana GVP forecast for 2016–17.

## **Mandarins**

### **Forecast**

The GVP for mandarins for 2016–17 is forecast to be \$107 million, 12% lower than the October 2016 forecast but 37% higher than the average for the past 5 years.

### **Discussion**

There has been some seasonal variation in crop sizes and the hot growing season could have an impact on the crop. Production is therefore forecast to be around 12% lower than the October forecast. Wholesale mandarin prices have been maintained.

## **Mangoes**

### **Forecast**

The GVP for mangoes for 2016–17 is forecast to be \$96 million, 4% higher than the October 2016 forecast and 46% higher than the average for the past 5 years.

### **Discussion**

Production is slightly higher than the October forecast. The crop has been reasonable and there have been some good volumes coming out of the Mareeba–Dimbulah region. Wholesale prices are quite good and have been maintained throughout the season.

## **Apples**

### **Forecast**

The GVP for apples for 2016–17 is forecast to be \$90 million, 10% higher than the October 2016 forecast and 51% higher than the average over the past 5 years.

### **Discussion**

The new season crop is being harvested at present and production is expected to be marginally lower than the October 2016 forecast, mainly because the heatwaves in early 2017 affected the Gala variety. However, overall sales for this financial year are slightly higher than for last year and wholesale apple prices are quite good, resulting in a higher GVP forecast.

## **Pineapples**

### **Forecast**

The GVP for pineapples for 2016–17 is forecast to be \$70 million, 5% lower than the October 2016 forecast but 1% greater than the average for the past 5 years.

### **Discussion**

The price paid for fruit for processing has increased—this is attracting more fruit to processing with less going to the fresh market. There is more risk in growing the Gold varieties (fresh market), so some growers are growing more of the Smooth Cayenne varieties and are selling them for processing because of the improved price. Generally the season was quite good, although natural flowering in fresh fruit varieties kept fresh fruit production in check.



## Vegetables

Cyclone Debbie destroyed 2 months of production in the Bowen district, which supplies a large proportion of Australia's winter vegetables. Many crops will need to be replanted over the remainder of the financial year. The reductions in forecast vegetable GVPs below are due to the impacts of the cyclone.

### Tomatoes

#### Forecast

The GVP for tomatoes for 2016–17 is forecast to be \$250 million, 16% lower than the October forecast and 9% lower than the average over the past 5 years.

### Capsicums and chillies

#### Forecast

The GVP for capsicums and chillies for 2016–17 is forecast to be \$132 million, 14% lower than the October forecast and 9% lower than the average over the past 5 years.

### Beans

#### Forecast

The GVP for beans for 2016–17 is forecast to be \$72 million, 15% lower than the October forecast and 18% lower than the average over the past 5 years.

### Sweet corn

#### Forecast

The GVP for sweet corn for 2016–17 is forecast to be \$41 million, 18% lower than the October forecast and 6% higher than the average over the past 5 years.

### Zucchinis and button squash

#### Forecast

The GVP for zucchinis and squash for 2016–17 is forecast to be \$39 million, 7% lower than the October forecast and 11% lower than the average over the past 5 years.

### Pumpkins

#### Forecast

The GVP for pumpkins for 2016–17 is forecast to be \$30 million, 12% lower than the October forecast but 22% higher than the average over the past 5 years.

## Lifestyle horticulture production

### Production nurseries

#### Forecast

The GVP for production nurseries for 2016–17 is forecast to be \$902 million. This is slightly above the October forecast and a 3% improvement on the average for the past 5 years.

### Discussion

Demand remains strong for product across all stock types within all supply chains. This sustained demand over the past 3 years has stretched supply both in Queensland and interstate. The buoyant market conditions have seen industry maximise on-farm production capacity, with increased profitability being driven through production efficiencies and higher stock turnover per hectare.

However, the recent heavy rainfall brought on by Cyclone Debbie affected nurseries in the Bowen region, and flooding in Rockhampton also impacted the industry. Nurseries along the Albert and Logan rivers suffered stock losses and damage to infrastructure, with deep flooding in some nurseries that were thought to be out of the flood zone.

## **Turf**

### **Forecast**

The GVP for turf for 2016–17 is forecast to be \$180 million. This is a 3% decrease from the October 2016 forecast but 24% above the average for the past 5 years.

### **Discussion**

The sustained growth in turf is driven by the continued buoyancy of the commercial and residential construction sectors. The ongoing dry conditions, though, have impacted production and some producers have exhausted their water allocations. However, these same dry conditions are favourable for turf cutting and installation, enabling the industry to respond to this current strong demand.

The commercial sector, especially stadium construction and maintenance, is sustaining a strong demand for turf. More large-stadium events are being attracted to Queensland, increasing maintenance requirements and generating further demand. An increase in greenscapes generally leading up to the Commonwealth Games is also supporting growth. There are shortages in the supply of some turf species and a sustained strong price continues to create favourable market conditions.

## **Cut flowers**

### **Forecast**

The GVP for cut flowers for 2016–17 is forecast to be \$161 million. This is a 3% increase from the October 2016 forecast and is 7% above the average for the past 5 years.

### **Discussion**

In 2017, Valentine's Day sales increased on average by 60%, with some businesses recording increases of up to 200%. This could be partly due to Valentine's Day falling on a weekday for the first time in 3 years and could signal a return to a more favourable cycle. However, it was also supported by growth in online flower sales, which are also generally increasing, driven by millennials who prefer online channels for purchasing. 'Bunch of the day' sales promoted through social media are also helping to push product in the market and have been successful in converting interest into discretionary and impulse purchases.

Exports of native flowers are increasing, driven by improvements in the economies of our main export markets (Japan, the United States and the European Union). Competition from imports has shifted producers from more traditional products to those where there is a gap to be filled domestically, such as gerberas, where phytosanitary restrictions limit imports.

## **Other crops**

### **Sugar cane**

#### **Forecast**

The forecast GVP for Queensland's sugar cane for 2016–17 is \$1.46 billion. This is approximately \$38 million or 3% higher than the October 2016 forecast and \$320 million higher than the final estimate for the 2015–16 crop.

Total revenue from the 2016 Queensland crop, in raw-sugar equivalent, is expected to be \$2.32 billion.

## Discussion

The Queensland harvest totalled 34.38 million tonnes for the 2016–17 season. This was 1.73 million tonnes higher than that achieved in 2015–16 and 1.48 million tonnes higher than the October 2016 forecast. The result was achieved despite as much as 0.6 million tonnes of cane being left to stand over until next season. The higher than forecast harvest and the quantity left to stand over were due to rain at critical times during the growth and harvest of the 2016–17 crop.

The final average CCS (commercial cane sugar) of 12.92 was well down from the 13.97 units achieved for the 2015–16 season due to the impact of wet weather.

As at 24 February 2017, Queensland Sugar Limited estimated its harvest pool return to be \$522 per tonne IPS (international polarity scale). This is \$139 per tonne (36.3%) higher than on the equivalent date in 2016 and is similar to the October 2016 forecast of \$527 per tonne.

ABARES anticipates that the world indicator price for raw sugar will increase by 5% in 2017–18. This reflects an expectation that consumption will continue to increase at a greater rate than production before the trend is reversed in 2018–19.

Impacts from Cyclone Debbie will be factored into the forecast for 2017–18, which focuses on the 2017 crop.

## Cotton

### Forecast

The GVP for cotton for 2016–17 is forecast to be \$985 million, a 13% increase on the October 2016 forecast and 50% greater than the average for the past 5 years.

### Discussion

Since the October forecast, there has been a significant increase in irrigated plantings across the state (from 107 500 to 129 500 hectares), due to improved growing conditions. There has also been a slight increase in the dryland cotton area across the state (up 1100 hectares to 46 600 hectares).

Unfortunately, some cotton grown in Central Queensland was impacted quite severely from flooding brought on by Cyclone Debbie. Debris spread through paddocks and many pieces of irrigation equipment (including pumps, generators and centre pivots) were inundated or destroyed. Crops were close to harvesting, so it is expected there will be some downgrades due to poor colour and boll rots on those crops.

## Other major field crops

### Peanuts

#### Forecast

The GVP for peanuts for 2016–17 is forecast to be around \$18 million, almost 50% below the previous forecast of \$33 million.

#### Discussion

The decrease in forecast GVP is due to a smaller area sown, lower yields and a lower price.

Growers were hoping to plant around 9500 hectares this season; however, very dry conditions led to only 8000 hectares (16% less than expected) being planted in spring and early summer. Due to ongoing dry conditions in the growing phase of the crop, peanut kernels have on average shrunk, taking yields around 30% lower. Yields are expected to be good for irrigated crops, but the dry conditions led to some crops in the Burnett region being baled for hay. Forecast production fell 40% from 33 000 tonnes to 20 000 tonnes.

Market fundamentals for domestic peanuts remain strong, with grain fetching from \$900 up to \$1200 per tonne, depending on quality. However, due to kernel shrinkage, grain quality and quantity per hectare will be downgraded, with the average price per tonne expected to be 10% lower at \$900 (down from \$1000) per tonne.

## **Soybeans**

### **Forecast**

The GVP for soybeans for 2016–17 is forecast to be around \$11 million, down 15% from the previous forecast of \$13 million.

### **Discussion**

The forecast GVP has decreased due to lower production, despite an increase in price.

The area sown is estimated to be 12 800 hectares, about 16% smaller than the 15 200 hectares previously forecast. Additionally, yields have fallen 14% from an estimated 1.7 tonnes per hectare to just 1.4 tonnes per hectare, due to very high temperatures experienced in many crop-growing areas, which affected pollination and pod development. Overall, production is expected to be 18 500 tonnes, a fall of around 28% from the 25 700 tonnes previously forecast. The Queensland production projection is around 10 000 tonnes lower than its potential, due to 4800 hectares out of 5500 hectares of soybeans in North Queensland being harvested as green manure. This has been exacerbated by hot and dry conditions, which reduced bean quality.

Despite the production fall, the price has increased 17% from \$505 to \$593 per tonne. Lower production is estimated to more than offset the increase in price, taking the GVP lower.

## **Sunflowers**

### **Forecast**

The GVP for sunflowers for 2016–17 is forecast to be around \$33 million, an increase of 500% from the previous forecast of \$5.5 million.

### **Discussion**

The increase in forecast GVP is due to increases in area sown, yield and price.

The area sown is estimated to have increased 100% from the 10 000 hectares initially forecast to around 20 000 hectares, due to increasing and above-average prices. This is despite widespread dry soil-moisture conditions and below-average rainfall in spring and summer. The estimated yield has increased to around 1.5 tonnes per hectare. Consequently, the forecast production has tripled from 10 000 tonnes to 30 000 tonnes. Market demand for domestic sunflower oil is strong, and the world oilseed price has increased, taking the estimated average sunflower seed price (including seed for crushing and birdseed) from \$550 to \$1100 per tonne.

Currently, seed for crushing (both polyunsaturated and monounsaturated) accounts for around 65% of quantity, while seed from the grey sunflower variety (for birdseed) accounts for the remainder. Sunflower seed for birdseed is commanding prices of between \$1300 and \$1400 per tonne.

The California-based S&W Seed Company is releasing a new polyunsaturated sunflower variety (SV60066) in Australia in 2017. It is expected to provide significant advantages and expand planting options for Queensland growers. Among the advantages are:

- yield maximisation in a wide range of conditions
- resistance to diseases such as leaf rust, downy mildew and Albugo (white blister)
- a high percentage of polyunsaturated oil
- resistance to lodging due to thick stalks
- a semi-pendulous head, which reduces sunburn, head rot and damage by birds.

## Summer cereal grains

### Grain sorghum

#### Forecast

The GVP for sorghum for 2016–17 is forecast to be \$164 million, 36% below the previous forecast of \$257 million and 52% below the average for the past 5 years.

#### Discussion

The forecast GVP has decreased due to significantly lower production, despite an increase in price.

The area sown has been revised down by 23% from 375 000 hectares to just 290 000 hectares. This was due to very dry subsoil moisture and limited or no rainfall at crop sowing (spring to early summer). Yield expectation has also fallen, by 28%, from around 3 tonnes to 2.2 tonnes per hectare. This is significantly below the 10-year average Queensland sorghum yield (to 2016–17) of around 3.2 tonnes per hectare.

Ongoing below-average rainfall in the first quarter of 2017 has significantly lowered yield expectations. In Central Queensland, average yields are expected to fall into the bottom 20% of 115 years of records. For south-western Queensland, median yields are expected to lie in the 67th percentile of all years, and south-eastern Queensland is expected to have close to median long-term yields. The below-average rainfall in crop-growing regions accompanied by abnormally high temperatures will impact negatively on yields.

The smaller area sown coupled with below-average yields is expected to take production 44% lower from 1 143 000 tonnes to around 637 000 tonnes. The sorghum price is currently being supported relative to other feed grains (such as wheat and barley) due to contracted seller activity plus unknown crop yields and quality as sorghum harvests commence. The price has increased 15% from \$225 to \$258 per tonne, but the fall in production is estimated to more than counter this, taking GVP significantly lower.

### Maize

#### Forecast

The GVP for maize for 2016–17 is forecast to be around \$92 million, 44% above the previous forecast of \$64 million and 71% above the average for the past 5 years.

#### Discussion

The forecast GVP has increased due to higher than expected yield and price, despite a smaller area sown.

The area sown to maize is estimated to be 36 500 hectares, 14% below the 42 400 hectares forecast previously. Despite the drier and hotter than average conditions this season, yields are expected to be 8.4 tonnes per hectare, 52% above the previous estimate. This has been due to more maize being irrigated than initially forecast. This yield average assumes that:

- dryland maize in South Burnett will yield 3.2 to 6.1 tonnes per hectare
- fully irrigated maize in the Lockyer Valley will yield 12 tonnes per hectare and supplementary irrigated maize in this region will yield 8.6 tonnes per hectare
- fully irrigated maize in Burdekin will yield 10.8 tonnes per hectare, with maximum yields in this region around 13.4 tonnes per hectare
- irrigated maize on the Darling Downs will yield 10 tonnes per hectare and dryland crop in this region will yield 5.5 tonnes per hectare.

The higher than expected average yield is estimated to more than offset the smaller area sown, taking the forecast production 31% higher from 235 000 tonnes to around 307 000 tonnes.

The production estimate includes 14 000 tonnes expected from the 2000 hectares of maize sown on the Atherton Tableland. Between 75% and 90% of irrigated maize in Central Queensland is being cut for silage.

The price has increased approximately 10% from \$272 to around \$300 per tonne. Increased yield coupled with this higher price is expected to take GVP higher.

## **Mung beans**

### **Forecast**

The forecast GVP for mung beans for 2016–17 has been revised 85% lower to just \$19 million, down from the previous forecast of \$127 million.

### **Discussion**

The reduction of forecast GVP is due to smaller plantings and to yields being significantly lower than expected.

Crop-growing conditions in spring were very dry and hot. Low soil moisture and lack of planting rains led to the area sown being 75% smaller than expected (25 000 hectares instead of the anticipated 100 000 hectares). Yields, in particular for early crops, were very much below average, and 39% below that previously forecast, but recent rain may improve the yield estimate. The smaller area sown coupled with lower yields has taken estimated production 85% lower from 115 000 tonnes to 17 500 tonnes. The price has, however, remained unchanged, averaging around \$1100 per tonne.

## **Winter cereal grains**

### **Wheat**

#### **Forecast**

The GVP for wheat for 2016–17 is forecast to be \$504 million, 40% above the October 2016 forecast and 26% above the average for the past 5 years.

#### **Discussion**

The area sown to wheat is estimated to be 708 000 hectares, only marginally (3%) below the previous forecast of 727 000 hectares. However, yields on average increased 37% from the expected 2 tonnes per hectare to around 2.7 tonnes per hectare. This high yield is primarily due to good winter rainfall and soil moisture conditions at planting in autumn to winter of 2016, and it well exceeds the Queensland 10-year average wheat yield (to 2014–15) of 1.62 tonnes per hectare. Reportedly, crop quality was initially a concern, with wet weather throughout the maturation phases of the crop, resulting in downgrading due to staining (black point). This led to a proportion of wheat that would otherwise be classified as high quality (such as APH1 and APH2) being downgraded to AUH2 (a mid-range quality). Grain protein levels were marginally below average. Overall, however, quality exceeded expectations. Production increased around one-third from the 1 460 000 tonnes forecast previously to 1 960 000 tonnes.

Nationally, production of wheat is projected to fall by around 30% in 2016–17. This might be expected to support local wheat values, but the domestic price is expected to remain dampened by large global wheat stocks relative to demand. Below-average wheat prices are expected to prevail through 2017. Despite these bearish market forces, current average APW (Australian Premium White) wheat grain has increased 5% from \$245 per tonne to \$257 per tonne since the previous estimate. Increased estimated production coupled with a small rise in price has taken wheat GVP significantly higher than expected.

## Barley

### Forecast

The GVP for barley for winter 2016 (2016–17 crop) is estimated to be \$75 million, 7% above the \$70 million forecast previously and 22% greater than the average for the past 5 years.

### Discussion

The forecast GVP has increased mainly due to higher than expected yields, despite a smaller area sown.

The area sown to barley is estimated to be 94 500 hectares, 16% below the 112 000 hectares initially forecast. Conversely, yields were around 30% higher than expected, at 3.8 tonnes per hectare, an above-average yield, thanks to good winter rainfall in 2016. Higher yields more than offset the smaller area sown, taking production 10% higher to 360 000 tonnes.

The expected price is \$208 per tonne, 3% lower than the previous estimate. Despite this, as at the beginning of March, some support for barley prices has been found, due to a combination of low seller activity and the relatively strong sorghum price. Additionally, continued export demand for Australian barley has contributed to local price support. Overall, increased production has taken the barley GVP higher.

## Chickpeas

### Forecast

The GVP for chickpeas for 2016–17 is forecast to be \$767 million, just 3% below the previous projection of \$793 million but still more than 3 times the average for the past 5 years.

### Discussion

The forecast GVP has decreased due to a smaller area sown than initially forecast, despite an increase in yield per hectare.

The area sown to chickpeas was estimated to be 492 500 hectares in 2016, 14% below the previous forecast of 570 000 hectares. Good yields were supported by a wet winter combined with sound grower management of the crop. Yields are estimated to be 10% above that forecast initially, at around 1.8 tonnes per hectare. However, the smaller area sown has more than offset increased yields, taking production 5% lower from 933 000 tonnes to 884 000 tonnes.

Harvest was relatively late in the growing season, which prompted very strong prices. Growers in Central Queensland regularly reported prices of \$1000 to \$1200 per tonne ex-farm as merchants looked to secure tonnages against October contracts. Once these contracts were covered, however, the chickpea price fell back in line with the remainder of the market, although still well above long-term average levels (about \$900 to \$1000 per tonne delivered in the Darling Downs and Brisbane market zones). On average, the price has risen just 2% from \$850 to \$867 per tonne. Slightly lower production has just outweighed the rise in price, taking the chickpea GVP marginally lower than initially projected.

## Fisheries

### Commercial fisheries

#### Forecast

The GVP for the Queensland crustacean industry for 2016–17 is forecast to be \$80 million. This is a decrease of about 22% from the October 2016 forecast and 29% less than the average for the past 5 years. It will reduce the forecast GVP for commercial fisheries from \$170 million to \$148 million.

## **Discussion**

The impact of white spot disease in Queensland is ongoing. If we assume the coming season is directly impacted by the loss of supply—that is, it cannot be mitigated or offset by other sources—there will be a production loss of 1160 tonnes (37% of the rest of Queensland production) at a value of \$22 million.

## **Aquaculture**

### **Forecast**

The GVP for the aquaculture industry for 2016–17 is forecast to be \$92 million. This is a decrease of about 20% from the October 2016 forecast and 10% less than the average for the past 5 years.

### **Discussion**

Prawn farming remains the largest sector of the Queensland aquaculture industry. This sector is expecting a decrease in production from the previous season, due to the ongoing impact of white spot disease. The farm-gate value of prawns is forecast to be \$57.0 million, a 30.8% decline on the previous estimate of \$82.4 million.

Barramundi, the second largest sector, is expected to increase production from the previous season. In 2016–17 it is predicted to achieve an estimated value of \$30.6 million, a 2.0% increase on the previous forecast of \$30.0 million.

The freshwater fish sector (primarily silver perch, Murray cod and jade perch) is estimated to be valued at \$2.4 million, a 50% increase on the previous forecast of \$1.6 million.

The redclaw, oyster and hatchery sectors are expecting to increase slightly on production levels achieved in 2015–16.



## Appendix: The economic contribution of agriculture and the food supply chain, Queensland, 2014–15

Queensland’s primary industries play a vital role in the state’s economy. However, the role of this sector extends beyond primary production of agricultural commodities.

Primary industry commodities are used in a range of manufacturing, retail and service industries. By investigating the value of agriculture and the food supply chain, we can better understand the role of primary industries in the state’s economy. Queensland’s food supply chain extends from primary production of agricultural products to food services and a range of manufactured goods that are delivered to consumers.

In this analysis, we estimate the economic contribution (gross value added) and the number of employees in agriculture and the food supply chain. To do this, we define three stages in agriculture and the food supply chain:

- primary production
- manufacturing of food and beverages
- food-related retail and services.

The industry subdivisions are detailed in Table 2.

**Table 2** Industry subdivisions in agriculture and the food supply chain

Stage	Industry subdivision (ANZSIC code)
Primary production	Agriculture (A01)
	Aquaculture (A02)
	Forestry and logging (A03)
	Fishing, hunting and trapping (A04)
	Agriculture, forestry and fishing support services (A05)
Manufacturing of food and beverages	Food product manufacturing (C11)
	Beverage and tobacco product manufacturing (C12)
Food-related retail and services	Grocery, liquor and tobacco product wholesaling (C36)
	Food retailing (C41)
	Cafes, restaurants and takeaway food services (C451)

Source: ABS, *Australian and New Zealand Standard Industrial Classifications (ANZSIC) 2006*, cat. no. 1292.0.

Agriculture product wholesaling (ANZSIC331) has been excluded from estimates of the food supply chain because we have assumed that the majority of value for this group comes from wool wholesaling (ANZSIC3311).

### Gross value added

To calculate the economic contribution of agriculture and the food supply chain, national income accounting uses ‘value added’. This avoids double counting, as intermediate products are excluded. The sum of the value of production inputs and the gross value added in each stage of production and distribution equals the total value of agriculture and the food supply chain:

$$\text{Value of production inputs} + \text{gross value added} = \text{total value of output}$$

That is:

$$\text{Gross value added} = \text{value of output} - \text{value of production inputs}$$

So gross value added is the value of output at basic prices (i.e. without commodity taxes or subsidies) minus the value of production inputs. The concept of value added is used to describe the economic contribution by an industry or sector.

## Estimate of the economic contribution of agriculture and the food supply chain, Queensland

The estimates are determined by the availability of data; therefore, the estimates in Table 3, Figure 2 and Figure 3 are for the year 2014–15.

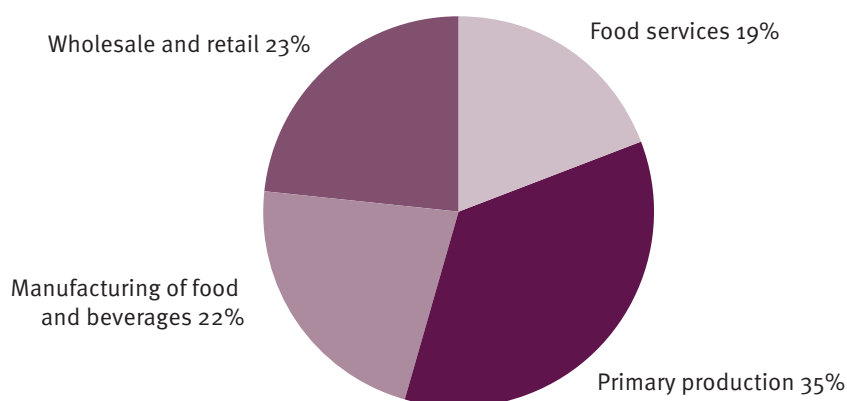
**Table 3** Value added and employment in agriculture and the food supply chain

	Primary production	Manufacturing	Retail and services	Total
<b>2014–15 estimates</b>				
Value added (\$b)	7.6	4.8	9.1	21.5
Employment ('000s)	55.4	48.1	200.9	304.3
<b>2013–14 estimates</b>				
Value added (\$b)	6.9	4.4	8.8	20.2
Employment ('000s)	55.6	43.7	182.7	282.0
<b>Percentage change 2013–14 to 2014–15</b>				
Value added	10	9	3	6
Employment	0	10	10	8

Source: DAF estimates based on ABS data from *Labour force, Australia, detailed, quarterly, November 2016* (cat. no. 6291.0.55.003), *Australian industry, 2014–15* (cat. no. 8155.0) and *Australian national accounts: state accounts, 2014–15* (cat. no. 5220.0).

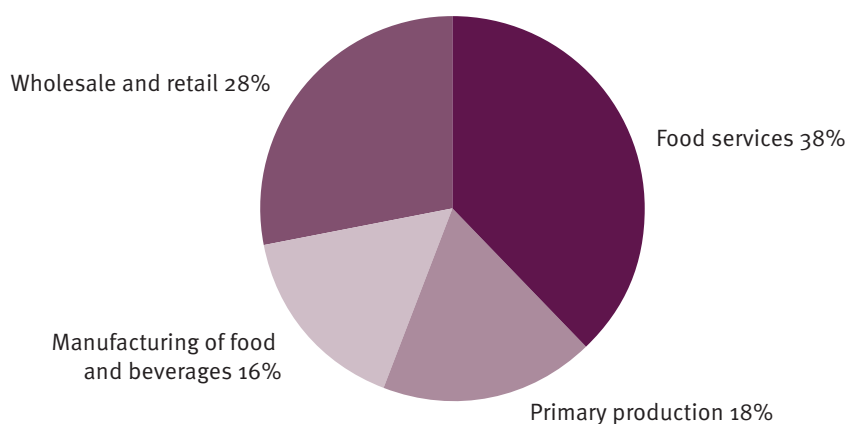
Gross value added for agriculture and the food supply chain in Queensland for 2014–15 is estimated to be \$21.5 billion. This makes up about 7% of the state’s economic output. Just over 304 000 people were employed in agriculture and the food supply chain in 2014–15, accounting for 13% of all working Queenslanders.

The value of food processing and distribution in Queensland (incorporating manufacturing and retail and services) is estimated to be almost \$13.9 billion for 2014–15. This sector employs around 248 900 people.



**Figure 2** Value added in agriculture and the food supply chain, 2014–15

Source: DAF estimates based on ABS data from *Australian industry, 2014–15* (cat. no. 8155.0) and *Australian national accounts: state accounts, 2014–15* (cat. no. 5220.0).



**Figure 3** Employment in agriculture and the food supply chain, 2014–15

Source: DAF estimates based on ABS data from *Labour force, Australia, detailed, quarterly, November 2016* (cat. no. 6291.0.55.003).

## Estimate of the GVP of Queensland’s primary industries and the food supply chain

Gross value of production (GVP) is used in *AgTrends* to measure the output for each primary industry commodity. GVP of agricultural commodities is calculated by multiplying the output for each primary industry activity by the average wholesale market price paid to producers:

$$\text{GVP} = \text{output} \times \text{price}$$

This measure describes the production output of a farm, industry or sector.

The estimate for the 2014–15 GVP at the farm gate is \$13.874 billion.

GVP as a percentage contribution to the state’s economic output is not reported because measures of economic output such as gross state product (GSP) are based on value added. Gross value added is preferred when presenting the contribution of an industry or sector to economic output.

The 2014–15 estimates for Queensland’s primary industry (GVP) and the food supply chain (value added) total \$27.8 billion.

Estimates derived with the ‘new method’ **should not** be directly compared with the estimates derived from the ‘old method’ (used in *Prospects for Queensland’s primary industries* before 2011). The new method has several advantages:

- Publications recently released by the ABS allow data to be updated annually. Previously data was sourced from numerous publications, four of which have not been updated since 2006–07 and are now discontinued.
- The new method does not require the use of price deflators.
- Updating the data is simple and transparent.
- The presentation of results has been simplified with continued emphasis on the difference between industry value added and GVP.

Table 3 shows industry value added and employee estimates for 2014–15 and 2013–14 based on the new method.

## Key assumptions

When calculating these forecasts, DAF follows the convention used by all government forecasting agencies that ‘normal’ seasonal conditions will occur across Queensland throughout the forecast year (2016–17) or that part of the forecast year yet to be completed. It also takes into account the seasonal conditions that have occurred to date. This sets a benchmark for measuring variations from ‘normal’ as the season unfolds.

The prices of all internationally traded commodities are responsive to changes in the exchange rate of the Australian dollar, relative to the currencies of our trading partners. Prices to primary producers (and therefore gross unit values) decline when the Australian dollar exchange rate increases and vice versa.

## Notes

**Gross value of commodities produced** (gross value of production or GVP) is a measure of economic output. In this publication, GVP relates to the output of primary industry commercial operations only. The GVP is the value of recorded production at wholesale prices realised in the marketplace (e.g. cattle sold at saleyards, sugar cane at the mill door, fruit and vegetables at the wholesale market). It is derived by multiplying the output from each primary industry by the average wholesale price paid to producers. Note that gross values of production are not the measures used to represent sectoral contributions to the gross domestic (or state) product.

**Value added** is the value of the output produced minus the costs of the intermediate inputs.

## Acknowledgements

We acknowledge the contributions to this report from DAF officers, industry experts, the Office of Economic and Statistical Research (OESR), the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), the Australian Bureau of Statistics (ABS), Meat and Livestock Australia (MLA), the National Climate Centre, various industry representatives, and various market commentators and industry media.

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CS6898 06/2017