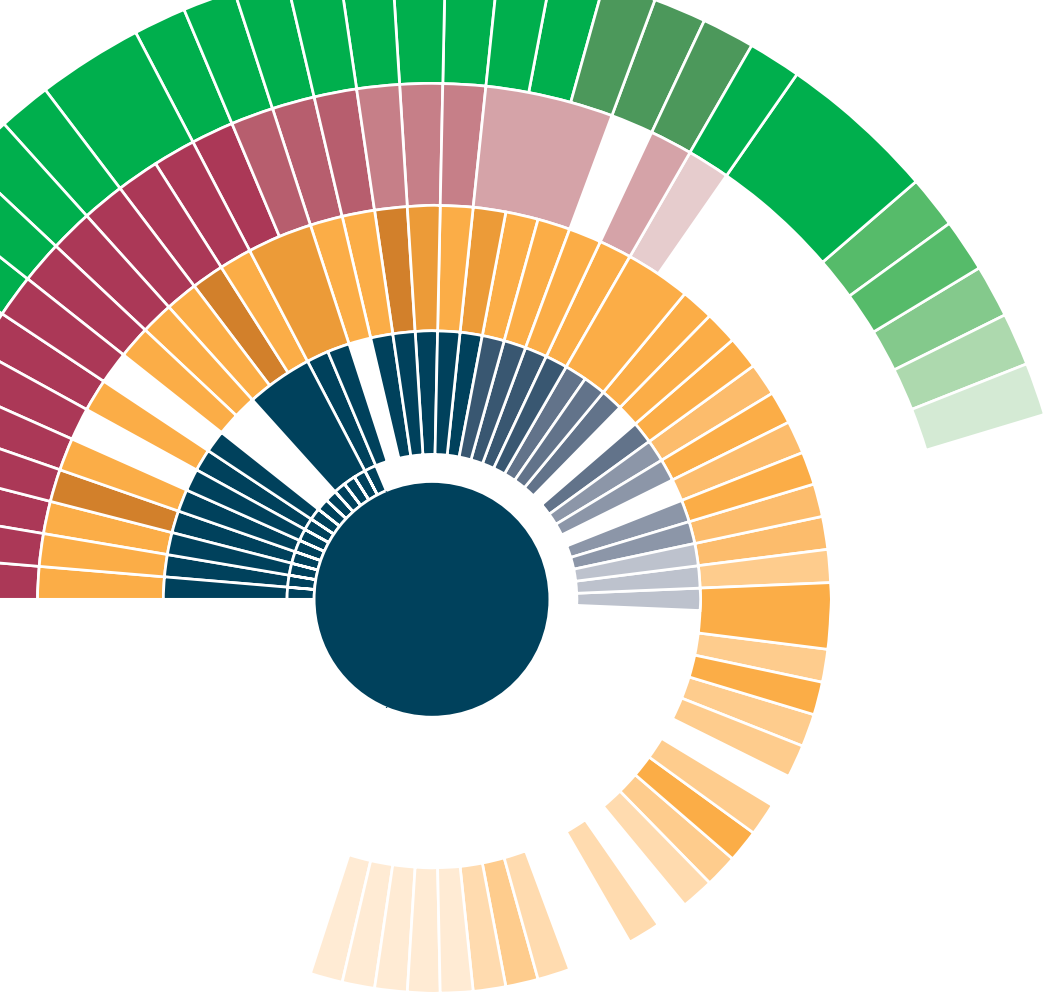

NSW GOVERNMENT | Department of Primary Industries

NSW Primary Industries

PERFORMANCE, DATA AND INSIGHTS 2016

PRIMED FOR GROWTH

Performance, Data and Insights 2016

Published by the NSW Department of Primary Industries

First Published November 2016

Second edition December 2016

Third edition January 2017

Fourth edition February 2017

ISBN 978 1 74256 975 8

More Information

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jtn 14124-02/2017

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EXECUTIVE SUMMARY

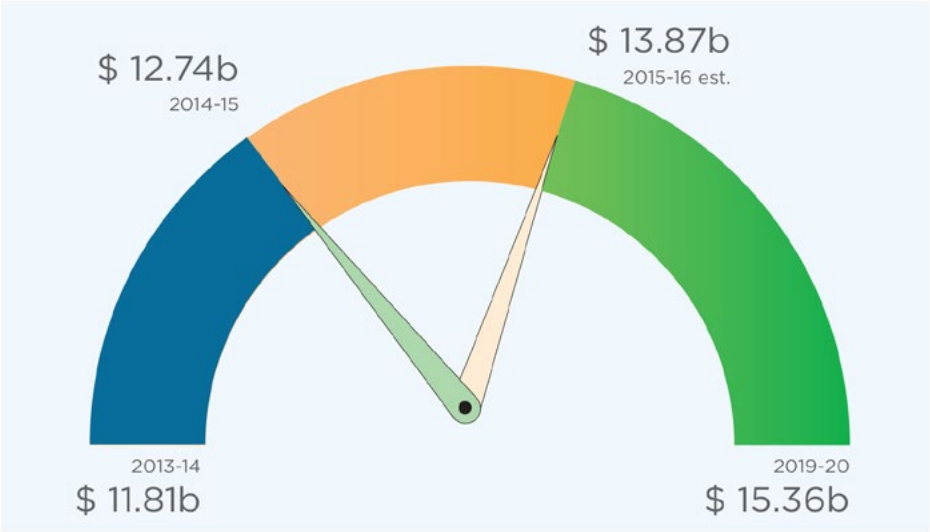
The **NSW Department of Primary Industries** (DPI) works to increase the value of primary industries and drive economic growth across NSW.

DPI manages a broad range of initiatives that provide resources to primary industry producers. These initiatives include **natural resource management, research and development and pest and disease management**.

To drive economic growth across primary industries, DPI **focuses on innovation** that improves resilience and boosts productivity, sustainable use of and access to natural resources, mitigating and managing risks to community and maintaining industry confidence. Two key strengths that support this goal are **productive partnerships** with business, industry and the community, and our greatest asset – **our people**.

Estimated Gross Value of Production (GVP) - 2015-16

Progress Towards NSW DPI Strategic Plan 2020



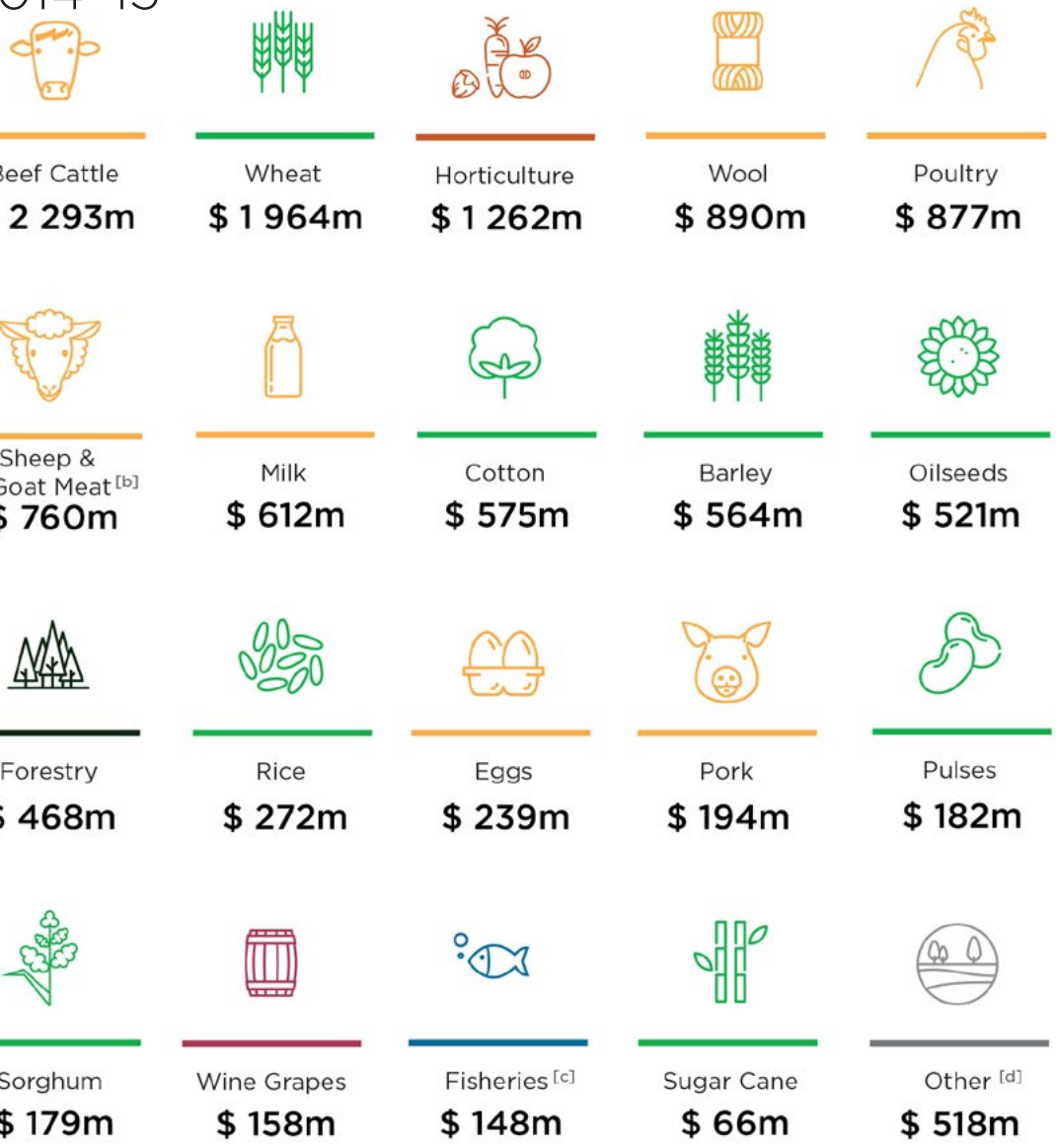
The key goal of the DPI Strategic Plan is to **increase NSW Primary Industries** Gross Value of Production (GVP) by 30% by 2020. In the base year of 2013-14, NSW primary industries GVP was measured at **$11.8 billion**, which is made up of more than 80 recognised industries across the state.

At the conclusion of 2015-16, NSW primary industries GVP was estimated at a **record high $13.9 billion**, an increase of 17% over the previous two years. By 2019-20, the strategic aim of 30% GVP growth equates to an increase of $3.5 billion over six years. After the first two years of the plan, **GVP has increased $2.1 billion**, which included an extended period of drought conditions across the state, fluctuating commodity prices and below average global demand.

This **DPI Performance, Data and Insights 2016** will provide a simple and clear analysis of the performance of key NSW primary industries each year. This analysis will be directly linked to the goal to increase NSW primary industries GVP by 30% by 2020.

GROSS VALUE OF PRODUCTION

2014–15



PRIMARY INDUSTRIES JOBS AND BUSINESSES

2014-15

	DIRECTLY EMPLOYED JOBS [e]	MANUFACTURING JOBS [f]	NUMBER OF BUSINESSES
AGRICULTURE	75 825	57 775	47 333
FISHERIES	3 025		1 115
FORESTRY	1 975	19 725	1 379
SUPPORT SERVICES [g]	6 500	N/A	3 879
TOTAL	87 325	77 500	53 706

EXPORT VALUES

2015–16 est.

Beef Cattle	Cotton	Wool	Wine	Sheep & Goat Meat
$ 1 578m	$ 589m	$ 584m	$ 507m	$ 475m

Wheat	Pulses	Horticulture	Oilseeds	Forestry
$ 453m	$ 366m	$ 242m	$ 136m	$ 92m

Sorghum	Rice	Pork	Poultry	Fisheries
$ 49m	$ 23m	$ 21m	$ 18m	$ 12m

Milk	Sugar Cane	Eggs	Barley	Other
$ 10m	$ 3m	$ 2m	$ 0	$ 550m

KEY EXPORT MARKETS

2015-16

	TOTAL ($)	MARKET SHARE
CHINA	$ 1 443m	28%
USA	$ 664m	13%
JAPAN	$ 480m	9%
SOUTH KOREA	$ 322m	6%
INDIA	$ 247m	5%

CROPPING OVERVIEW

Estimated combined GVP of NSW cropping was

$5,197m ↑ 7%
in 2015-16

Chickpea prices surged

by 23%
in 2015-16

The **area planted** to crops was up by 3.5% in 2015-16.

The wheat industry had a substantial improvement in 2015-16 assisted by a beneficial start to the winter cropping season before a more difficult than expected finish due to **above average temperatures**.

It was a tough year for rice growers with the **value of production down sharply**. Planted area and production fell to its lowest levels since the 2009-10 season.

The 2016 International Year of Pulses could not have been timelier, with the value of production expected to far exceed the previous record. Faba bean and chickpea production were up significantly.

The cotton GVP grew strongly as a result of a lower Australian dollar, a slightly larger area being planted and above average yields.

Source: NSW DPI (2016)

WHEAT

GVP
$2,197m ↑12%

NSW planted area and yields were up in 2015-16

Price steady, supported by lower AUD

The value of NSW wheat produced in 2015-16 is estimated to have increased by 12% to $2.2 billion. This was due to **favourable weather conditions to start the winter crop season leading to** higher production. Prices received remained broadly unchanged.

In 2015-16, NSW producers are estimated to have **produced 7.5 million tonnes of wheat**. This is 13% higher than the previous year due to an **increase in the area planted by around 8%**, and an increase in wheat yields close to 5%. [7]

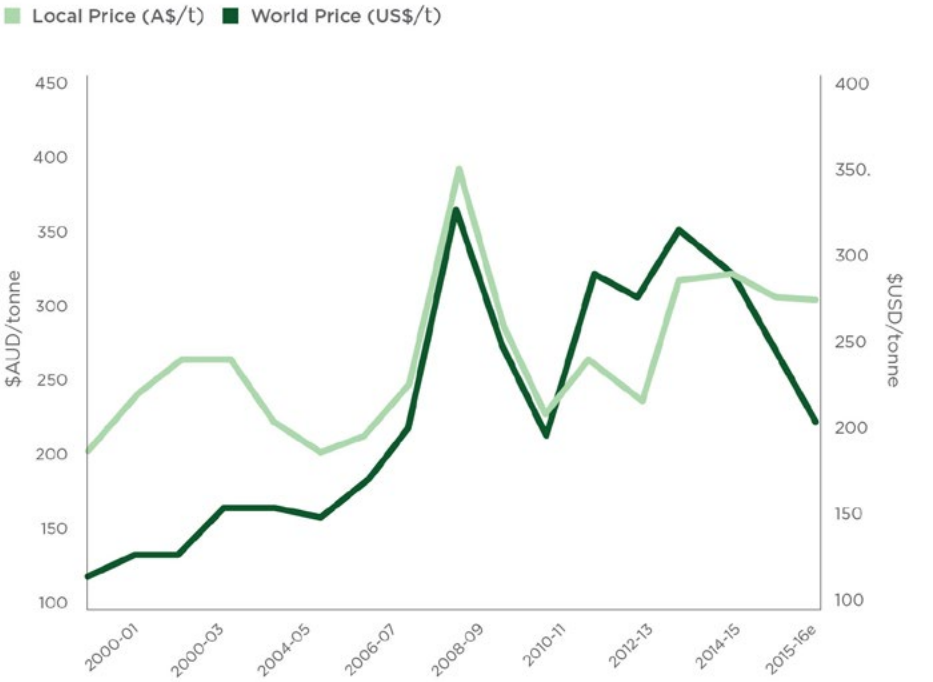
Prices received for NSW wheat are estimated to have been broadly unchanged in 2015-16, with **falls in global wheat prices largely o set by the depreciation of the Australian dollar**. [7]

Increased competition from low cost producers, including the Black Sea area, has reduced Australia's market share in the traditional destinations in Asia and Middle East. Contributing to the decline has been lower shipping rates and record global closing stocks of wheat in 2015-16. [9]

Wheat Key Data		2014/15	2015/16e	5yr change
GVP	$millions	1 964	2 197	-13%
Export Value	$millions	489	453	-54%
	Italy	60	73	111%
	China	106	53	22%
	Egypt	53	47	-59%
Price	$/tonne	300	298	16%
Production	Kilotonnes	6 654	7 500	-28%

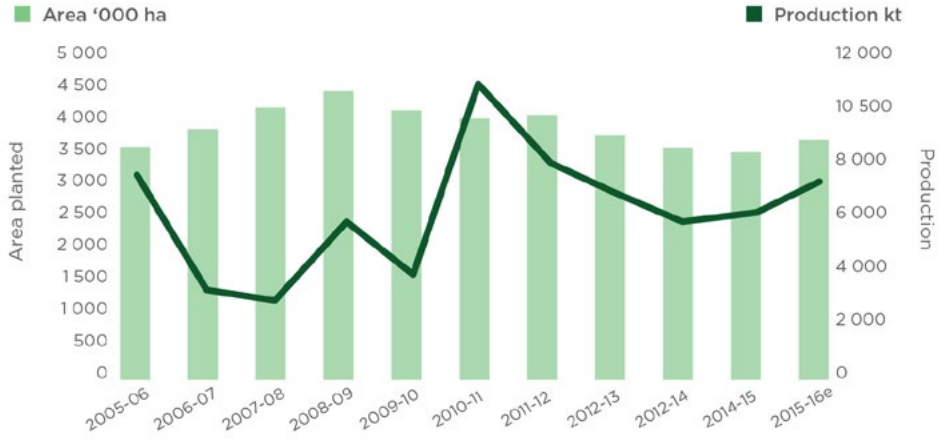
Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABARES (2016a); ABARES (2016)

Local/World Wheat Price



Source: ABARES (2016a); ABARES (2016c)

NSW Wheat Area and Production



Source: ABARES (2016)

WHEAT

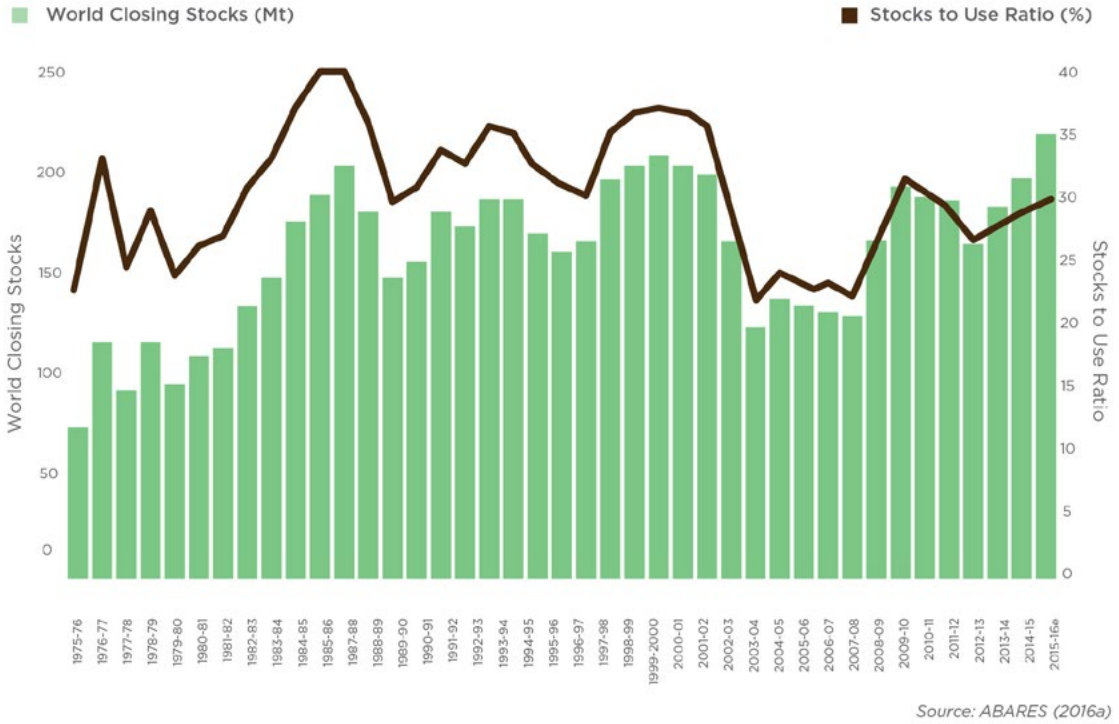
NSW wheat exports for 2015-16 f**ell 7% on the previous year to $453 million**, well below the highs of 2011-12 when exports reached over $1.25 billion. Exports represented approximately 20% of total NSW production in 2015-16.

Exports to China had a major impact, declining by nearly half (down $53.5 million) in 2015-16, dropping to the second largest export destination. Exports to the Indian sub-continent also retreated significantly, $16.3 million less than the previous year. Declines were a result of global competition from low cost origins.

Export market improvements in 2015-16 included the Middle East, valued at $80.8 million. Egypt was the largest destination in the region, representing 10% of total exports in 2015-16.

Italy became the single largest export destination in 2015-16 valued at $73.2 million, up $13 million year-on-year. This was on the back of increased Durum Wheat exports.

World Wheat Closing Stocks and Stocks to Use Ratio



Source: ABARES (2016a)

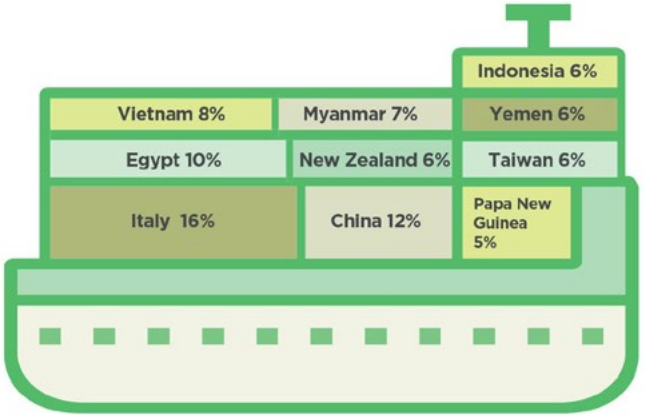
Exports

$453m ↓ 7%

China exports declined by nearly 50%

Durum exports to Italy up 21%

Top 10 NSW Wheat Export Destinations



Source: GTA (2016)

NSW DPI collaborated with GRDC and University of Adelaide to develop new durum wheat variety DBA Lillaroi. DBA Lillaroi has excellent durum quality with high grain yield, large grain size, improved colour and good resistance to rust. DBA Lillaroi achieved 13% protein which is essential for classification as the top quality durum.

COTTON

GVP
$723.8m ↑26%

Lower Australian dollar supports higher prices

Dryland cotton production up noticeably

Values rose sharply **by 26% in 2015-16, to $723.8 million**.

The partial rebound in values for the year was primarily due to an increase in prices received on the back of a favourable exchange rate and, to a lesser extent, higher production.

2015-16 GVP remains well below the peak registered **in 2011-12 of $1.36 billion**, when both water availability an prices were higher.

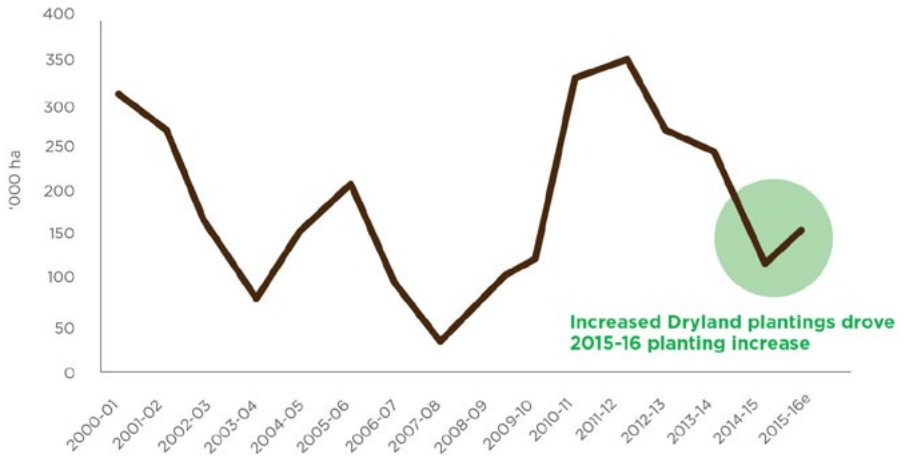
The amount of cotton lint produced **in 2015-16 increased by around 7%**, driven by a sharp increase in area planted off a low base (up 31% to 163,000ha), which more than o set a noticeable fall in yields (down 19%). [7]

Both the increase in area planted and fall in yields were mainly the result of an increase in the area of land planted to dryland cotton. [7]

The average price received for cotton is expected t**o have increased by over 17% in 2015-16** from the previous year. This is largely the result of the depreciation of the Australian dollar and forward selling at the high prices offered the previous year. The world indicator price for cotton (Cotlook 'A' index) fell slightly in US dollar terms. [9]

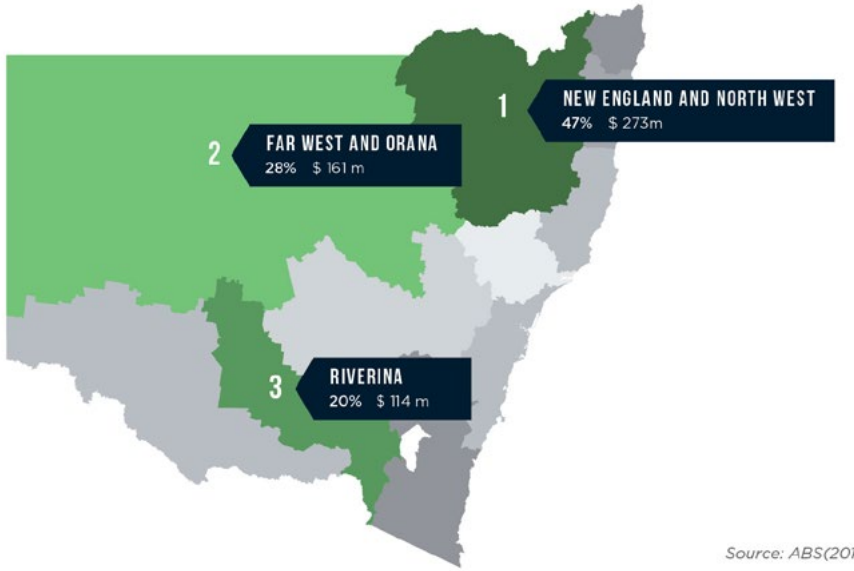
Cotton Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	575	724	-36%
Export Value	A$millions	676	589	4%
	China	385	332	61%
	Vietnam	68	81	493%
	Thailand	50	49	-55%
Price	Ac/kg	199	234	-38%
Production	Kilo Tonnes	254	272	-45%
	000 ha	124	163	-53%

Area planted to cotton



Source: ABARES (2016)

Top 3 Cotton Growing Regions by Value



Source: ABS(2016a)

COTTON

Global stocks forecast to decline 2016-17

NSW exports fell by 13% to $589m

China is the major export market

Global stocks are forecast to **fall moderately in 2016-17 to just over 90 million bales**, though the global production remains at almost double the long term average. This will further pressure prices.

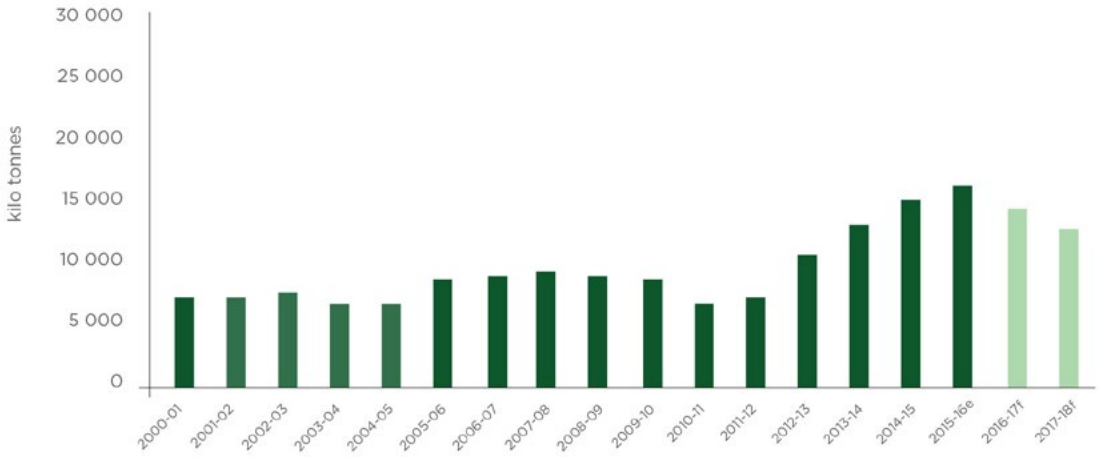
Further pressure is expected on prices in 2016-17, with China's ending stocks estimated to be almost **150% of use** and likey to reduce demand for imported cotton.

NSW cotton exports **fell 13% in 2015-16 to $589 million**. In contrast, exports in 2012-13 were valued over $1.18 billion.

China remains our largest export market, representing **56% of total exports**. These exports were valued at $332 million in 2015-16, **down $53 million** from the previous year.

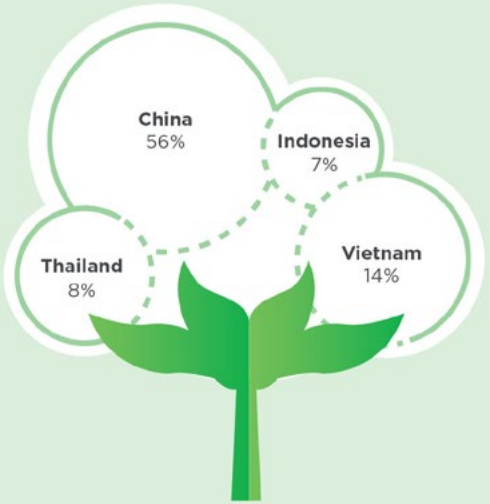
The India and Vietnam markets both recorded growth in 2015-16, increasing by 32% and 19% respectively. Vietnam has been **gaining market share** over the past 4 years to become the second largest market.

Global opening cotton stocks



Source: ABARES (2016a); USDA (2016)

Top 4 Export Market Destinations



Source: GTA (2016)

NSW DPI research is working to validate integrated pest management (IPM) strategies from the north and apply them to the expanding southern cotton industry. Cotton thrips research indicates that growers may be able to eliminate one to three insecticide treatments, saving over $10 per hectare.

BARLEY

GVP received

$557m ↓1%

Production 1 890kt

↑1%

Coarse grains closing stocks at highest level in 28 years

The value of barley produced in NSW is forecast to **fall modestly in 2015-16, to $557.4 million**, with a small increase in production outweighed by a fall in price.

NSW barley production is estimated to have **increased 1.1% in 2015-16** due to an increase in the area planted. Production is above the decade average, though well short of the 2005-06 or 2010-11 crops.[7]

Barley prices are expected to have fallen modestly in 2015-16. **The anticipated decline in prices was driven by lower import demand from China** and the relative oversupply of coarse grains for feed in the global markets, with closing stocks at the highest level since 1988. Australian barley is used for malting purposes and as stock feed in China.[9]

Despite this lower import demand, Chinese use of both feed and malting barley has helped slow further declines in local prices. **In 2014 the Chinese government banned US and Argentinian GM corn**, which led to grain merchants substituting feed barley and sorghum for corn. [12]

The recent China Australia Free Trade Agreement (ChAFTA) saw the **removal of a 3% tariff** on Australian barley imports to China. This has indirectly supported prices and prevented further declines in the NSW barley price. [12]

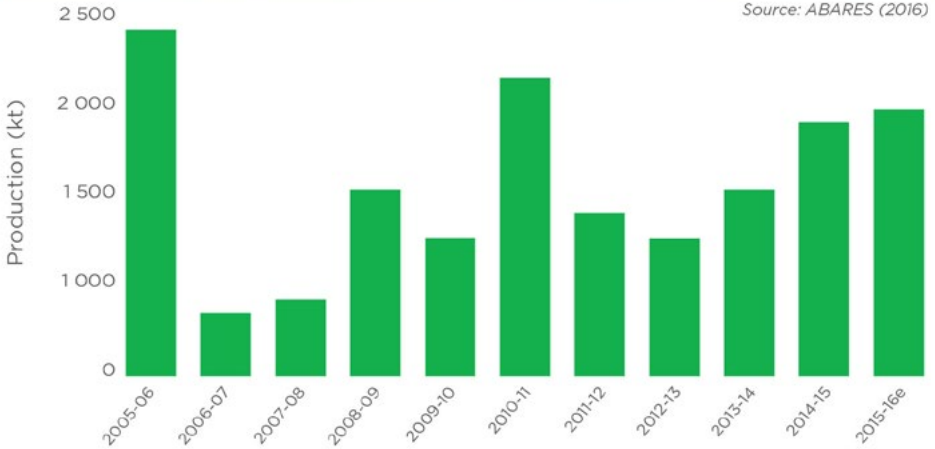
Exports of barley from NSW in 2015-16 were recorded as negligible as typically a large portion of NSW production is consumed domestically by local feedlots and malt brewing operations. Despite this, **Australian barley exports indirectly affect NSW prices**.

Barley Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	564	557	18%
Price	$/tonne	280	273	26%
Production	kilo tonnes	1 869	1 890	-14%
Area planted	000 ha	882	900	3%
Yield	tonnes/ha	2.12	2.10	-16%

Source: ABS (2016a); NSW DPI (2016); ABARES (2016); ABARES (2016c)

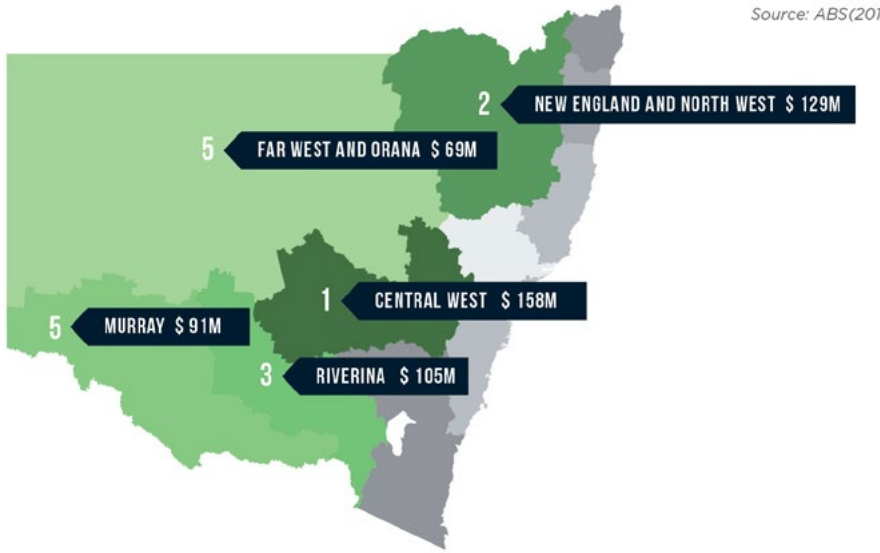
NSW Barley Production

Source: ABARES (2016)



Top 5 NSW Barley Growing Regions by value

Source: ABS(2016a)



NSW DPI partnered with GRDC to lead Management of Barley and Barley Cultivars for the Southern Region to improve grower productivity through improved barley cultivars, development of agronomy packages for new and current varietal releases, and aligning production with market requirements.

Other project collaborators include Birchip Cropping Group (BCG), Southern Farming Systems, SA R&D Institute (SARDI)

OILSEEDS

GVP

$467m ↓10%

Canola area planted fell 20% to 560 000 ha

Approximately 94% of the total value of oilseeds is canola

The value of total oilseed production is **estimated to have declined 10%** in 2015-16 to $467m.

This is largely **due to a sharp fall in the area planted to canola**, with farmers switching to other crops where relatively higher returns were on offer. [7]

Canola accounts for nearly 94% of the value of oilseeds in NSW.

By volume, NSW oilseed production is largely made up of canola and cottonseed. This is in contrast to the rest of the world, which produces primarily soybeans. [8]

The amount of **canola produced is expected to have been nearly 18% lower** in 2015-16. [7]

Yields are expected to have risen moderately in 2015-16, to **1.5 tonne per hectare**. [7]

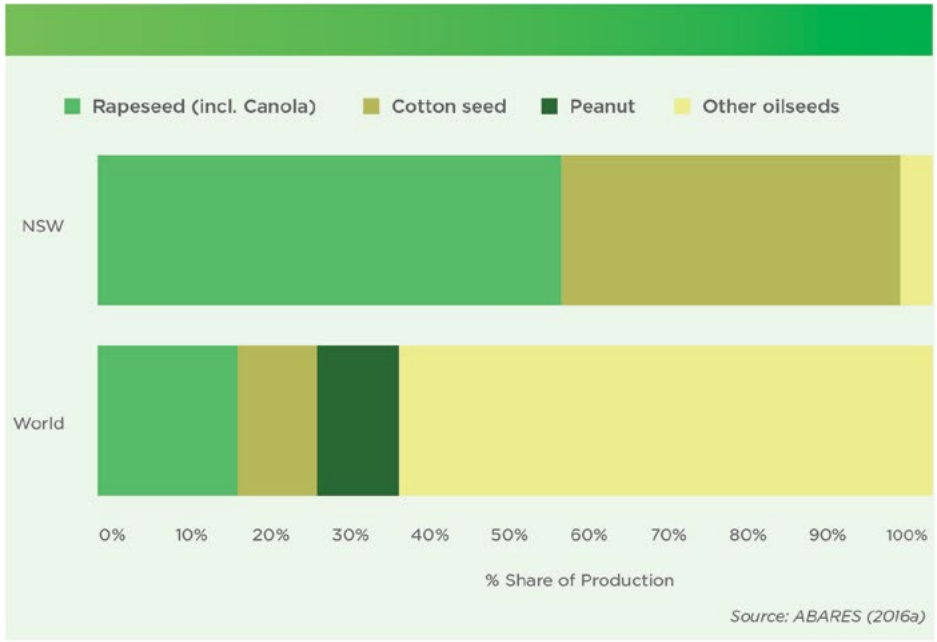
NSW oilseeds **exports were up marginally** in 2015-16 by 3.8%, to just over $136 million.

Exports to Belgium and the Netherlands rose noticeably, while exports to Pakistan and the United Arab Emirates fell sharply.

Rapeseed (including canola) contributed 72% of the export value, while cotton seed made up a further 22%.

Oilseeds Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	521	467	7%
Export Value	A$millions	131	136	21%
	Netherlands	34	41	146%
	Belgium	N/A	32	-32%
	Japan	7	12	279%
Price	A$/tonne (gross unit value - canola)	503	550	1%
Production	Canola 000 T	1 014	833	3%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABARES (2016); ABARES (2016c)



Source: ABARES (2016a)

NSW DPI collaborated with GRDC undertaking research into Hybrid canola in northern NSW during a two-year research project and delivered 36% more yield than open-pollinated varieties.

RICE

GVP
$98.3m ↓64%

Production forecast to decline 64.4%

NSW is one of highest yielding producers in the world

Rice values are estimated to have fallen sharply in **2015-16 to just under $100m**.

This was driven by a 68% fall in the area planted, which was down from 69,000 hectares in 2014-15 to 22,000 hectares in 2015-16. [7]

The reduction in area planted reflected concerns over the low availability of **irrigation water** at sowing.[7]

As of 1 September 2015 the availability of irrigated water from the **Murray and Murrumbidgee Rivers** was around 40% of their combined general security licensed volumes, compared to almost 55% the year prior. [13]

The fall in area planted also reflected the h**igh price for temporary traded water**, which made purchases of additional water expensive and encouraged some farmers to sell water.

The average price of traded water across NSW was more than 70% higher in **2015-16 at $205/ML**.[o]

2015-16 yields are estimated to have **increased to 11 tonnes** per hectare from 10 tonnes per hectare the year before. [7]

Australian rice producers consistently achieve some of the **world's highest rice yields**. [14]

The value of rice exports fell by around 46% in 2015-16.

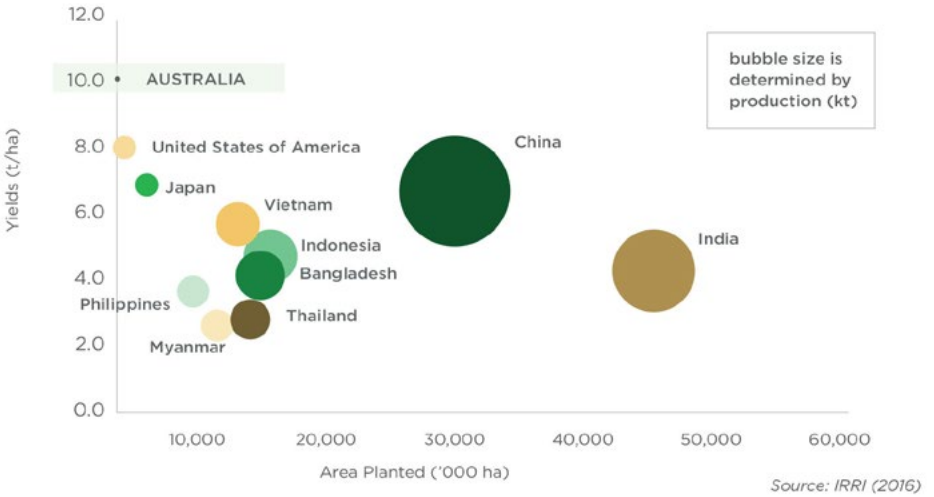
Rice Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	272	98	-43%
Export Value	A$millions	43	23	-81%
Price	A$/tonne	395	401	67%
Production	Kt produced		245	-66%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABARES (2016); ABARES (2016c); ABS (2016d)

NSW Rice Production

Source: ABS (2016a); NSW DPI (2016); ABARES (2016)

Global Rice Production [n]



Source: IRRI (2016)

NSW DPI research has been adopted by rice growers using direct drilling and delayed permanent water (DPW) in the 2015 -2016 season to save water and increase gross margins by up to 59%.

PULSES

GVP
$348m ↑91%

NSW chickpea production up an estimated 55%

NSW Exports
$366.2m ↑116%

The value of the pulse industry has surged by 91% to an estimated **$347.9 million in 2015-16** due in large part to chickpeas, with both prices and production of chickpeas increasing strongly.

NSW is the largest pulse producer nationally with **453,000 hectares** forecast for 2015-16, an increase in area of 30% year-on-year.[7]

Total NSW pulse production is expected to be up **46% in 2015-16** on the previous year to 719,000 tonnes. Production rose noticeably across most varieties of pulse with strong increases in production estimated for field peas, lupins and lentils. [7]

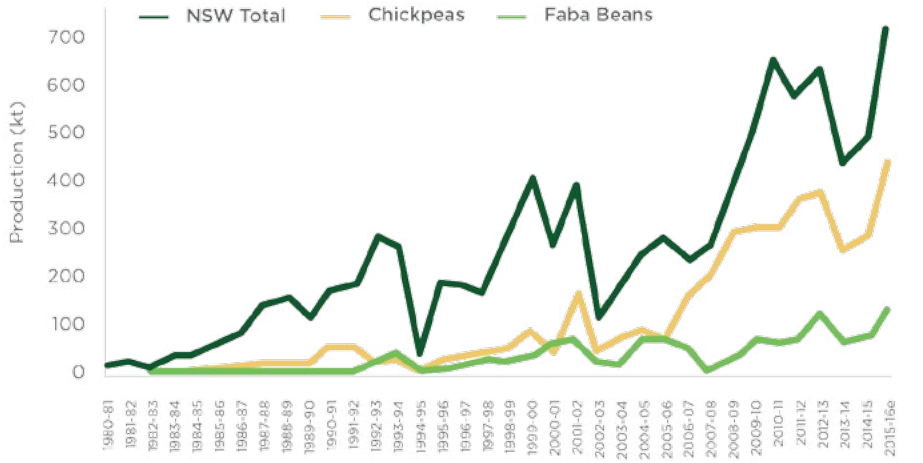
Chickpea production is forecast to have **increased by 55% in 2015-16** in response to a 23% increase in price from already elevated levels. [7]

Consecutive below average monsoon seasons on the Indian sub-continent have led to strong demand **with total exports reaching $366.2m, up 116%** year-on-year. India was the major destination taking 51% of exports, with Bangladesh (16%) and Pakistan (14%) also representing key markets.

Pulses Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	182	348	46%
Export Value	A$millions	169	366	228%
	India	57	187	1608%
	Bangladesh	55	58	110%
	Pakistan	9	51	60%
Price	$/tonne (gross unit value)			
	Chickpea	567	697	72%
	Field Peas	413	441	66%
Production	000 T	491	719	11%

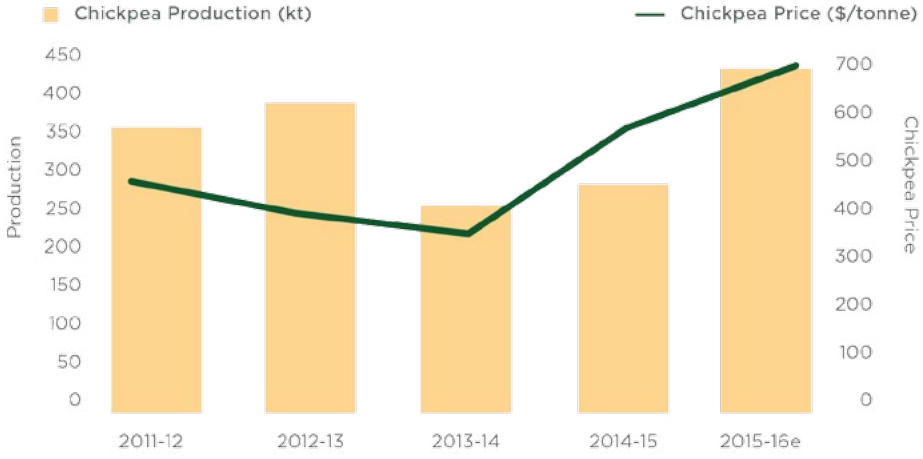
Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABARES (2016); ABARES (2016c)

NSW Pulse Crop Production



Source: ABARES (2016)

Chickpea Price and Production



Source: ABARES (2016); ABARES (2016c)

NSW DPI, in partnership with GRDC and Pulse Breeding Australia, bred a new chickpea called PBA Seamer. PBA Seamer has the highest available Ascochyta blight resistance compared to leading varieties, and is also moderately resistant to Phytophthora root rot. Potential for industry cost of production savings of $21 million per annum through reduced fungicide use.

SORGHUM

GVP
$170.5m ↓5%

New England and North West is key production region

China major market taking 99% of exports

The gross value of NSW sorghum production is estimated to have **declined 5% in 2015-16, to $170 million**, with the decline largely due to a lacklustre demand from China.

The amount of sorghum produced in NSW for 2015-16 remained relatively steady, at approximately **585,000 tonnes**, from an estimated area planted of 180,000 hectares. [7] The majority of sorghum was grown in the New England and North West region of NSW in 2014-15. [10]

The price for sorghum produced in **2015-16 decreased by 4% year-on-year, to $288/tonne**. [9] Combined with the lower demand from China, a softer domestic feed market placed additional pressure on sorghum prices.

Large global coarse grain stockpiles placed pressure on global markets throughout 2015-16. [8] Australian sorghum also came under increasing pressure from competing coarse grains from low cost origins.

China has been a growing export market for NSW sorghum. Since 2005-06 when exports were negligible, robust demand for sorghum stock feed led to exports peaking at **$65m in 2014-15**.

China remained the single largest export market for Australian sorghum representing more than **99% market share in 2015-16**. However year-on-year exports fell 24% to $49 million in 2015-16.

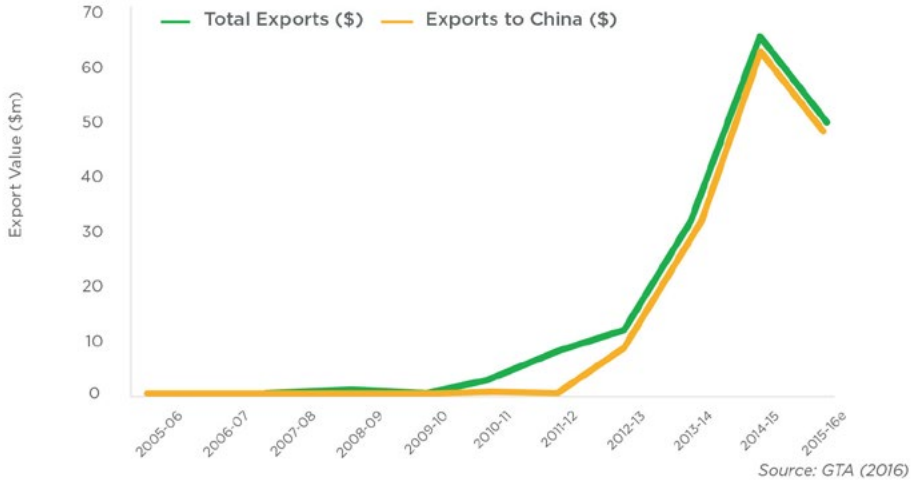
Sorghum Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	179	170	7%
Export Value	A$millions	65	49	1 726%
	China	64	48	5 426%
	Philippines	0.2	0.3	N/A
	Indonesia	-	0.1	N/A
Price	$/tonne	301	289	36%
Production	Kilo tonne	586	585	-22%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABARES (2016); ABARES (2016c); ABS (2016d)

Sorghum Production and Area Planted

Source: ABARES (2016)

Sorghum Export Value



Source: GTA (2016)

NSW DPI, in partnership with GRDC, led the Sorghum in the Western Zone project which has conducted research in low-rainfall production zones to identify management strategies to stabilise typically unreliable sorghum production, to increase the diversity of farming systems and to address key industry issues such as crown rot, nematodes and herbicide resistant weeds.

SUGAR CANE

GVP
$100m
in 2015-16

Production increased by around 40% in 2015-16

Global prices up as stocks down from record highs

The value of sugar cane in NSW is **expected to have increased by over 50%** in 2015-16 to $100m. This was driven by a 40% increase in production. [16]

This was d**riven by a 40% increase in production**. [16]

Yields were up strongly to near decade highs of around 130 tonnes of cane per hectare. [16]

Prices received increased by over 8% in 2015-16 compared to the year before. [9]

The increase in prices largely **reflects a fall in global sugar stocks**. [9]

Global prices have increased for the first time since 2010-11 after a number of years where global stocks grew to record levels. [9]

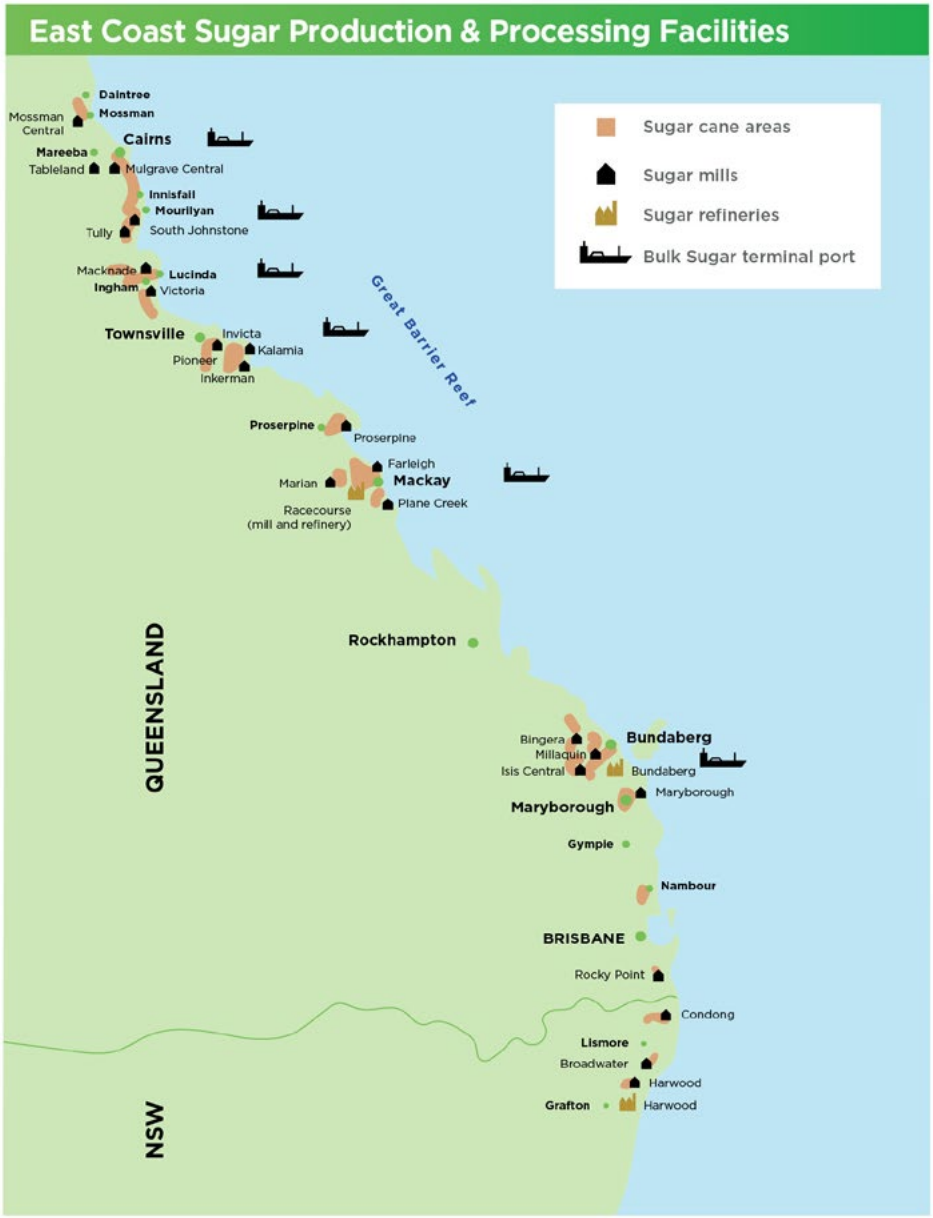
Global production was estimated to fall short of consumption **by approximately 6 million tonnes in 2015-16**. [9]

Almost all of NSW sugar is consumed domestically, with mills and a refinery strategically placed within the Northern NSW growing region to maximise the capture of production within the area.

However, there may be an occasional export of NSW sugar out of the port of Brisbane, given **there is no Bulk Sugar Terminal currently located in NSW**.

Sugar Cane Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	66	100	62%
Export Value	A$millions	n/a refined and milled in Harwood but shipped via Queensland		
Price [p][q]	A$/tonne	39	42	6%
Production	Kilo tonne	1 700	2 394	53%

Source: ABS (2016a); NSW DPI (2016); ABS (2016d); ASMC (2016)



NSW DPI supports cane growers to maintain long-term productivity through the Flood Ready Cane Farming program that assists farmers to prepare for, respond to and recover from the risk of floods – which are a feature where cane is grown on the NSW North Coast.

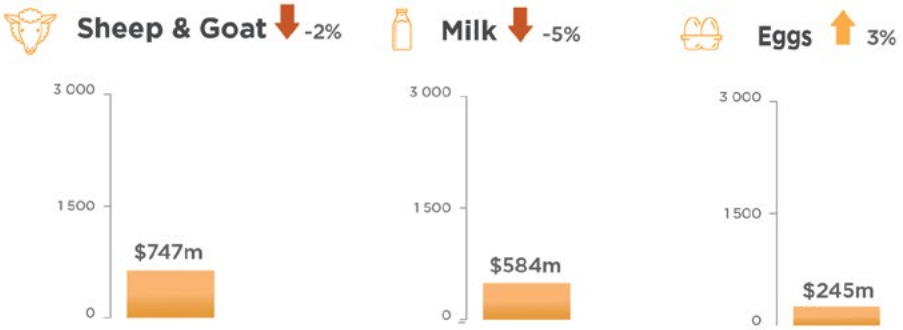
LIVESTOCK OVERVIEW

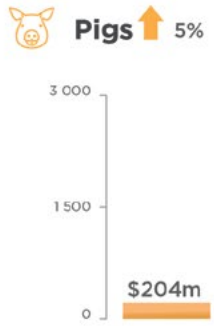
The cattle industry had an exceptional year in 2015-16 and is expected to exceed the record levels of the previous year. Driving factors include increasing demand from export markets, a lower exchange rate and constrained global supply.

The wool industry is expected to record a strong result in 2015-16 due to demand from our major export destinations of China, Italy and the Czech Republic, and a weaker Australian dollar.

The milk industry has had a difficult year in 2015-16 due to unexpected milk price downgrades. This **has been the result of increased global production** that has outstripped demand and added pressure to already tight producer profit margins.

Goat production steadily increased its industry profile over 2015-16 with prices reaching record levels, up 34% year-on-year – higher than lamb on occasion.





Source: NSW DPI (2016)

Estimated combined GVP of NSW livestock and livestock products was **$6,515m** in 2015-16, up 11%

Cattle was the main contributor to growth, with soaring prices the key factor

Wool also contributed to growth, with the average EMI price up **14%** Y.O.Y.

BEEF CATTLE

GVP
$2.89b ↑ 26%

Eastern Young Cattle Indicator up
44% Y.O.Y.

Tight supply a major factor behind increasing prices

For the NSW cattle and beef industry, 2015-16 was an another record breaking year with **GVP estimated to reach $2.9 billion, up 26%** on the previous year and up 79% over the past five years.

With a geographic spread across every region, the **NSW beef and cattle industry was the largest contributor** to overall state primary industries GVP in 2015-16, making up 21%.

Dry conditions between July 2015 and March 2016 reduced supply of cattle and underpinned historically high cattle prices. Following this, widespread rainfall into winter 2016 drove prices into record territory.

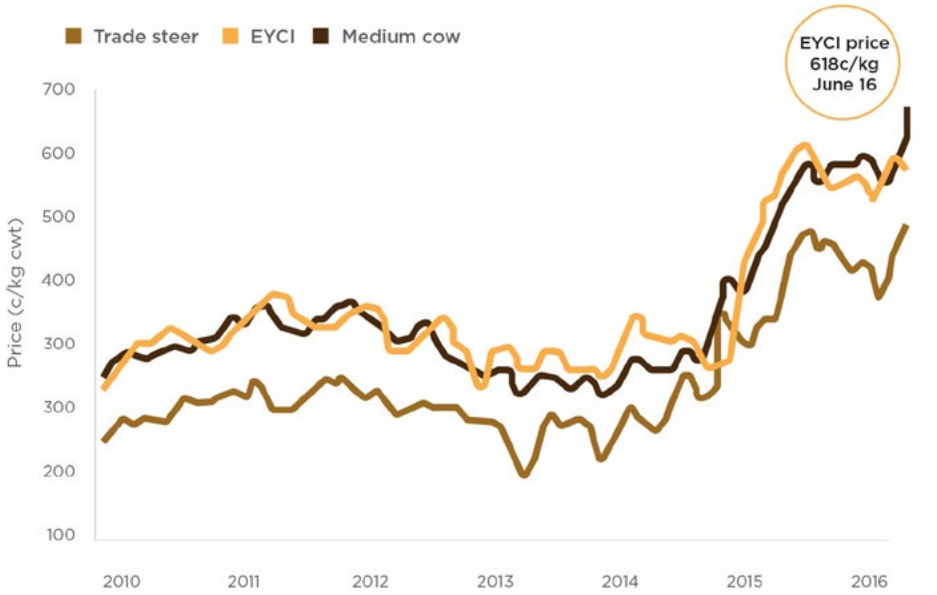
For 2015-16, saleyard prices for NSW trade steers (330-400kg) **increased 40.4%**, averaging 587.76c/kg cwt. Very tight supply and a 20-year low breeding herd helped cow prices to average **37% higher** for the year, at **467.8c/kg cwt**. [17]

Underpinning the record prices throughout the year was a significant and sustained contraction in supply. Beef production for 2015-16 totalled **521 thousand tonnes cwt**, down 12% on the previous year. [18]

Beef Cattle Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	2 293	2 896	79%
Export Value	A$millions	1 722	1 578	128%
	United States	628	464	270%
	Japan	318	320	41%
	South Korea	218	241	39%
Price Ac/kg (cwt)	A c/kg (cwt)			
	Eastern Young Cattle Indicator (EYCI)	400	578	51%
	Medium cow indicator	341	468	58%
	Trade steer indicator	419	588	52%
Production	Tonnes	595 655	521 424	11%

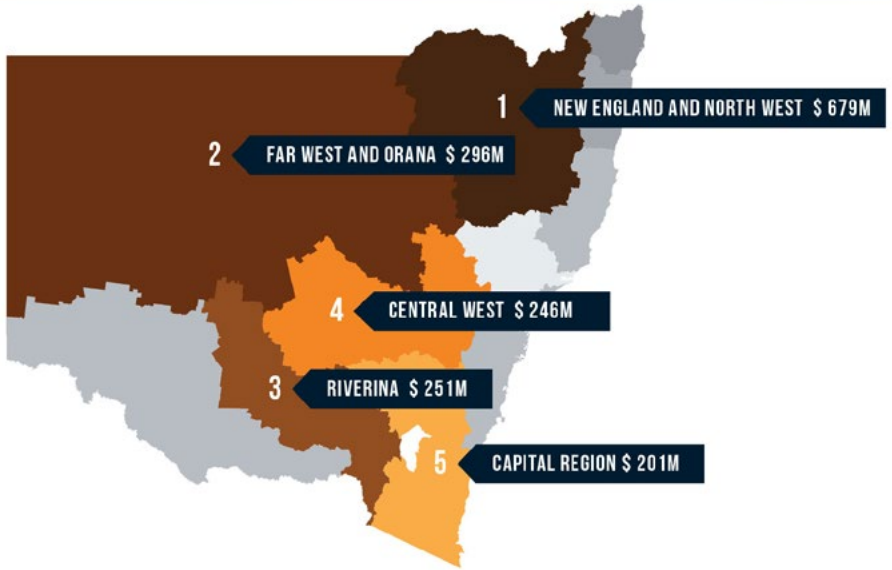
Source: ABS (2016a); NSW DPI (2016); GTA (2016); MLA (2016); ABS (2016b)

Cattle Prices ac/kg (cwt)



Source: MLA (2016)

Top 5 NSW Beef Producing Regions



Source: ABS(2016a)

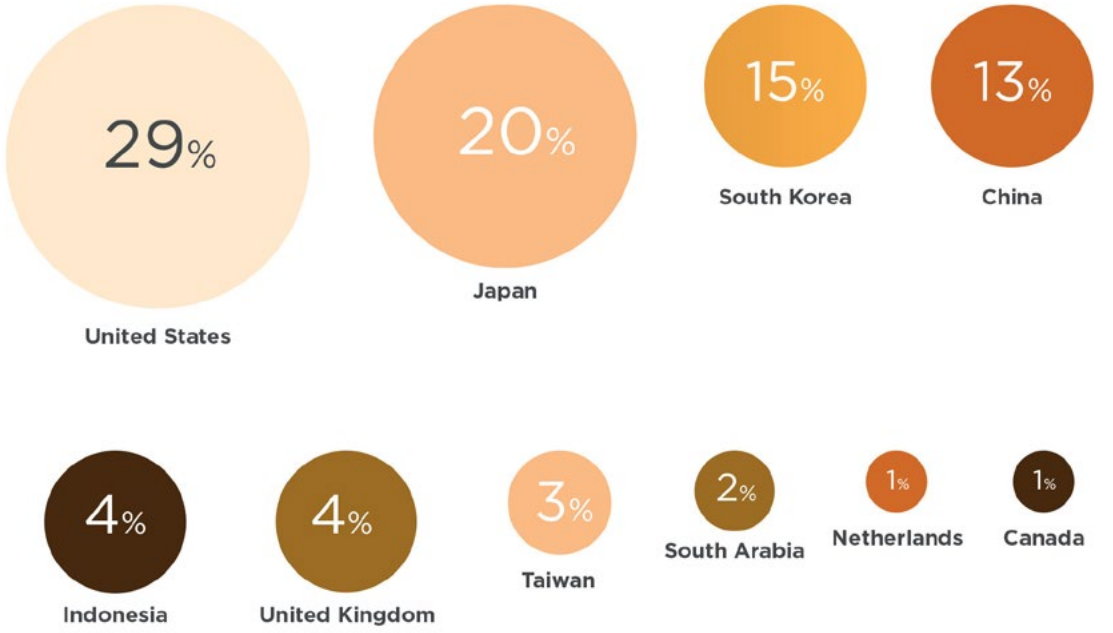
BEEF CATTLE

NSW beef export values for 2015-16 **decreased by 8.4%**. This was due to a decline in volume and in the context of a historically high export value in the 12 months prior. The United States ($464 million), Japan ($320 million), South Korea ($241 million) and China ($209 million) made up 78% of the total export value.

The lower Australian dollar also assisted the price competitiveness of NSW beef in many overseas markets. The average A**UD/USD exchange rate** in 2015-16 **fell 13%** year-on-year, which helped underpin the value of our largest beef export market.[11]

The outlook for the NSW beef industry for **2016-17 looks to be vibrant**, with a very wet winter across the state. While the overall supply of cattle will continue to be a major challenge, it will underpin prices at historically high levels.

Top 10 NSW beef export markets



Source: GTA (2016)

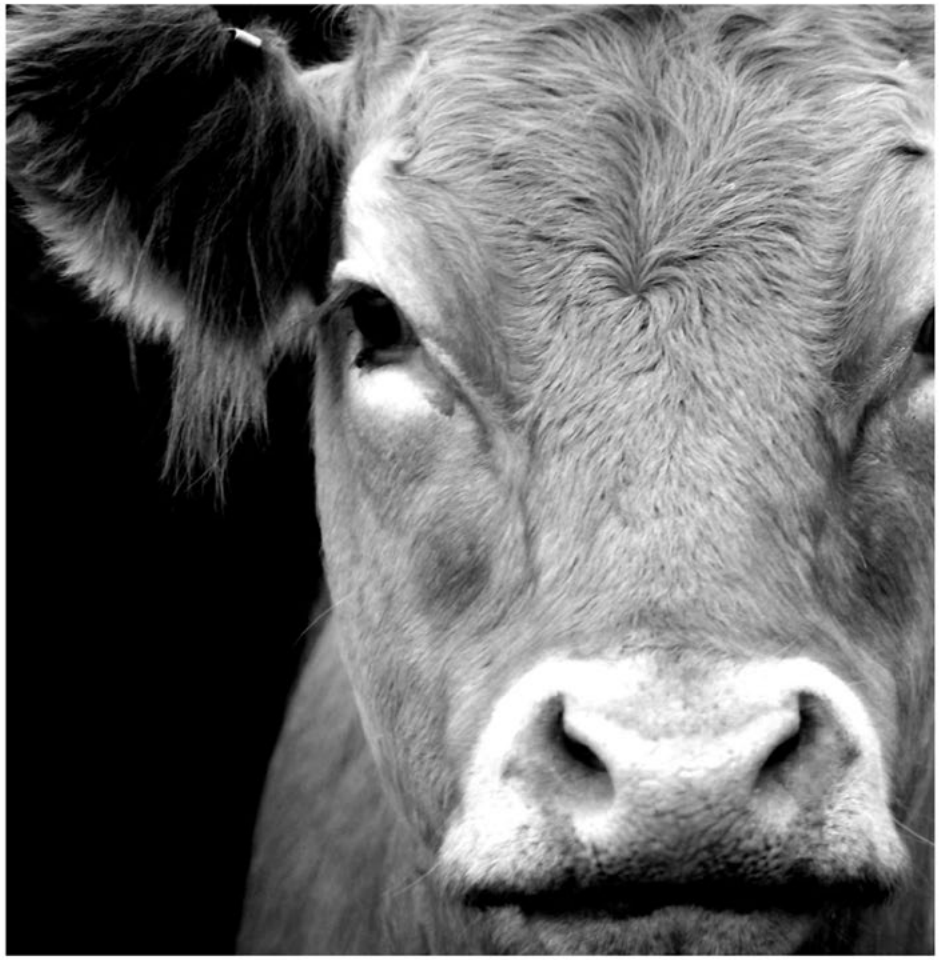
Beef export value

Declined 8.4%

AUD/USD Exchange rate

Declined 13%

The **US, Japan, South Korea & China** took 78% of exports



NSW DPI collaborated with GRDC and University of Adelaide to develop new durum wheat variety DBA Lillaroi. DBA Lillaroi has excellent durum quality with high grain yield, large grain size, improved colour and good resistance to rust. DBA Lillaroi achieved 13% protein which is essential for classification as the top quality durum.

WOOL

GVP

$956m ↑7%

EMI price indicator
up 14% to 1 254c/kg

27m
sheep shorn 2015-16

NSW is the largest wool producing state in **Australia and accounts for 9% of global wool production**. [19]

Wool production in NSW **rose 7%** to an estimated **$956.5 million** in 2015-16, underpinned by strong growth in prices and the weaker Australian dollar.

Seasonal conditions for NSW wool producers were highly variable throughout 2015-16, contributing to a fall in shorn wool production to an estimated 123 million kilograms.[20]

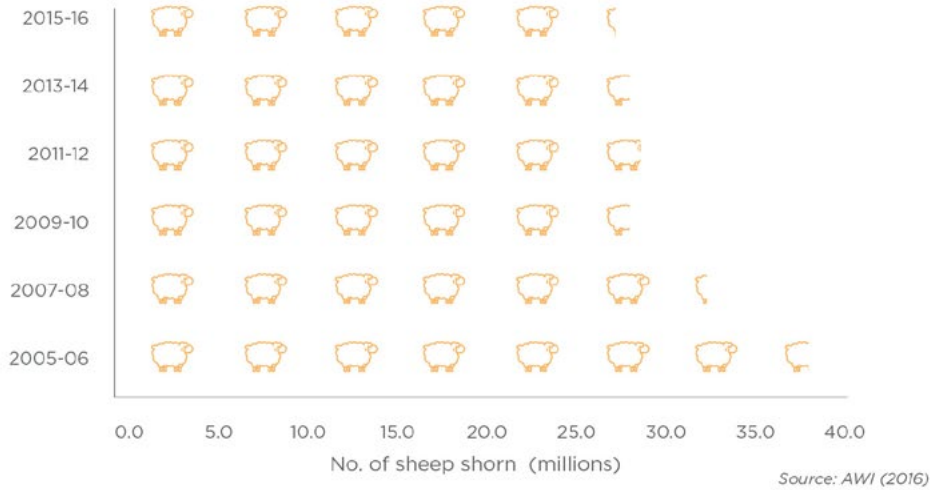
The number of sheep shorn in NSW declined in 2015-16 down to an **estimated 27 million sheep**, continuing the long term downward trend in both NSW and Australia. [20]

In 2014-15, **six regions produced in excess of $100 million worth of wool**. These regions were the Central West; Far West and Orana; Capital Region; Riverina; Murray; and New England and North West respectively. [2]

Wool Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	890	957	12%
Export Value	A$millions	605	584	-10%
	China	453	442	-13%
	Italy	63	64	-7%
	Czech Republic	42	34	20%
Price	A c/kg			
	AWEX EMI	1 099	1 254	12%
Production	million kg of greasy wool	130	123	-7%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); AWI (2016); ABS (2016b)

Number of Sheep Shorn in NSW



Source: AWI (2016)

WOOL

Wool prices grew strongly in 2015-16 with the annual average AWEX Eastern Market Indicator price for wool up **more than 14% to 1,254c/kg** from the previous year. [21]

The production of superfine wool (**18.5 micron and finer**), which attracts a price premium over coarser wool, has increased over the past decade in Australia in contrast to total wool production.[20]

Increased supply of superfine wool over this period has caused the price premium over coarser grades to fall since their peak in 2010-11.[8]

The price premium between 19 micron and 23 micron wool **fell to around 100c/kg** from highs of around 350c/kg. [20]

NSW wool exports fell slightly in 2015-16 to an estimated **$583.6 million**. [21]

This was driven by a fall in exports to China. Export values fell 10% in 2015-16 compared to the previous year. [20]

The majority of NSW wool is exported, with **China accounting for 76% of the total value of NSW wool exports** in 2015-16.

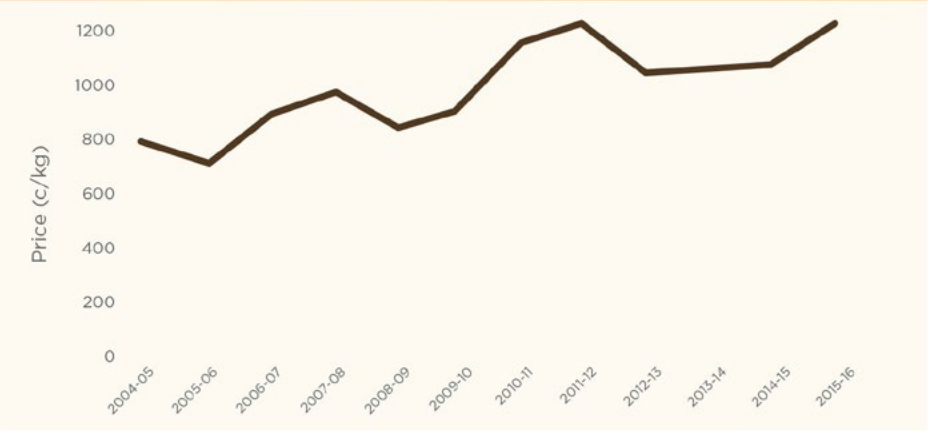
Exports slightly down to

$583.6m

Fine wool price premium reduced with increased supply

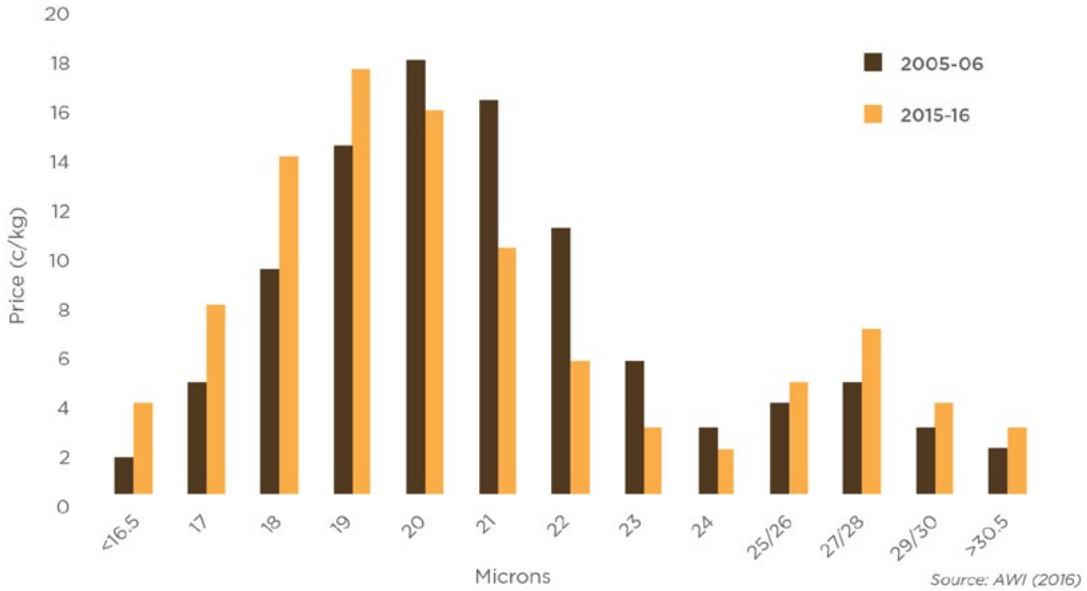
China bought **76%** of wool exports

Average Wool Price (AWEX EMI)



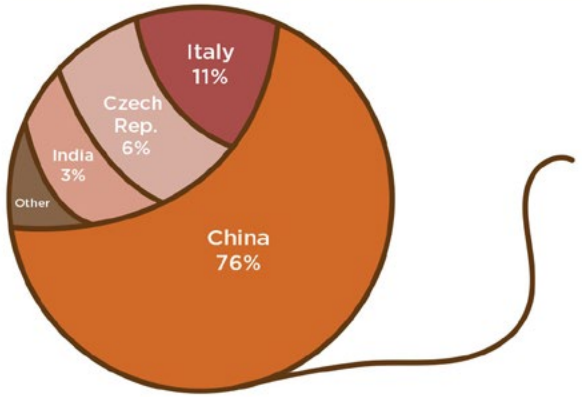
Source: AWI (2016b)

Australian Wool Production Profile



Source: AWI (2016)

Top NSW Wool Export Destinations



NSW DPI with Australian Wool Innovation developed the 2006-2016 Merino Bloodline Performance report. This has delivered crucial information to breeders, with high acccuracy genetic data from 77 Merino bloodlines providing a reliable indication of potential profitability from the bloodlines.

SHEEP & GOAT MEAT

GVP
$747m ↓1.8%

Saleyard lamb prices
↑**3-7%** Y.O.Y.

OTH Goat prices
↑**34%** Y.O.Y.

The value of sheep, lamb and goat meat production to NSW in 2015-16 was estimated at **$747 million, down by 1.8%**.

Saleyard prices were historically high in 2015-16 as demand from both Australia and export markets continue to overshadow supplies. NSW saleyard lamb prices averaged **3-7% higher on the previous year**, with trade lambs (18-22kg cwt) averaging 548c/kg cwt.[17]

Underpinning this was very strong demand for lamb, robust mutton markets and record high prices for goat meat. [17]

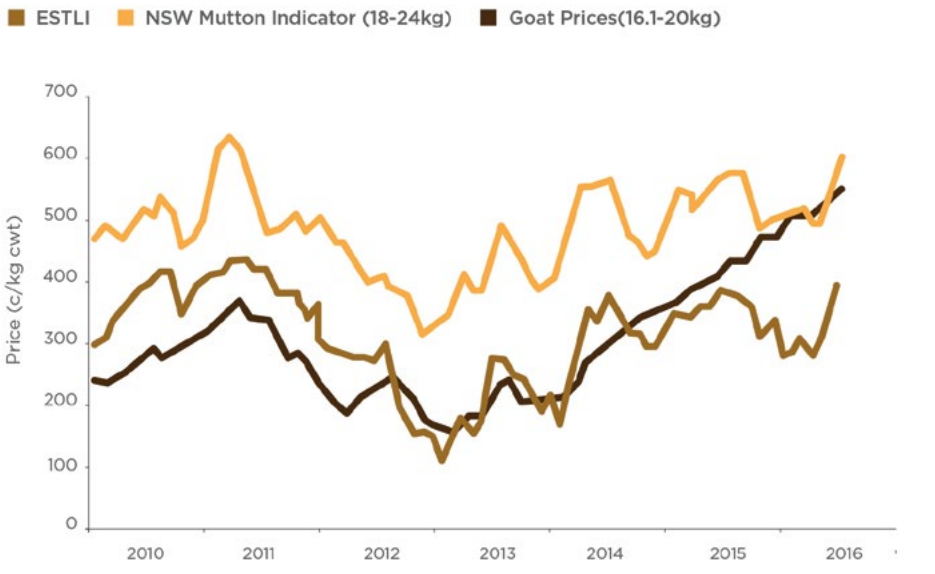
For goat meat, stronger growth in key exports markets contributed to a **34% increase in direct to works prices for 2015-16**, with some weekly returns for goats surpassing lamb prices. [17]

NSW goat meat production is centred in the rangeland and western half of NSW, with reports of producers increasing or investigating full scale goat meat production.

Sheep & Goat Meat Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	760	747	21%
Export Value	A$millions	505	475	92%
	United States	97	153	165%
	China	99	59	116%
	United Arab Emirates	38	42	157%
Price	A c/kg (cwt)			
	ESTLI	520	544	-2%
	NSW Mutton Indicator	347	340	-19%
	Goat OTH (16.1-20kg)	373	500	54%
Production	Tonnes	175 720	164 728	55%

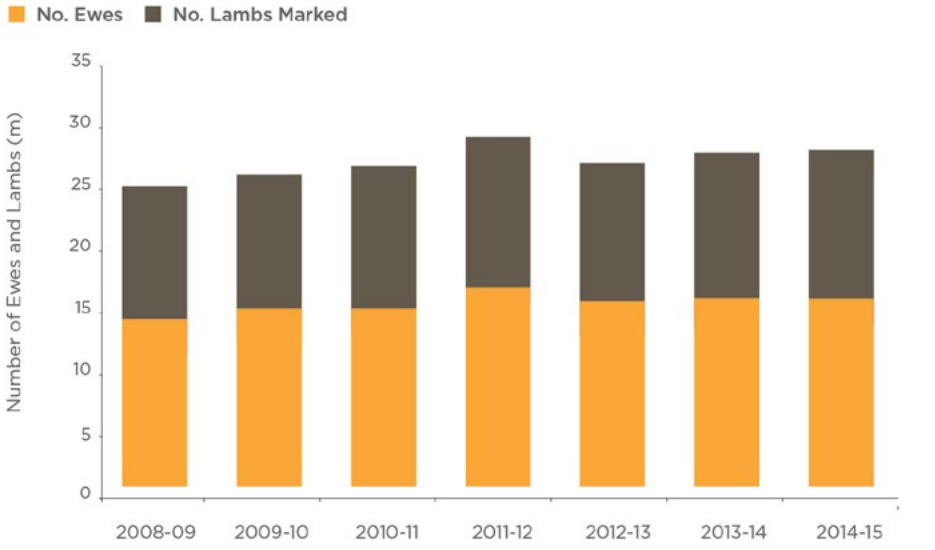
Source: ABS (2016a); NSW DPI (2016); GTA (2016); MLA (2016); ABS (2016b)

Lamb, Mutton and Goat Prices



Source: MLA (2016)

NSW Ewe and Lamb Flock Size



Source: ABS (2016d)

SHEEP & GOAT MEAT

Sheep/Lamb Exports

$464m ↓7%

Key **lamb & sheep** markets include USA, China, Middle East

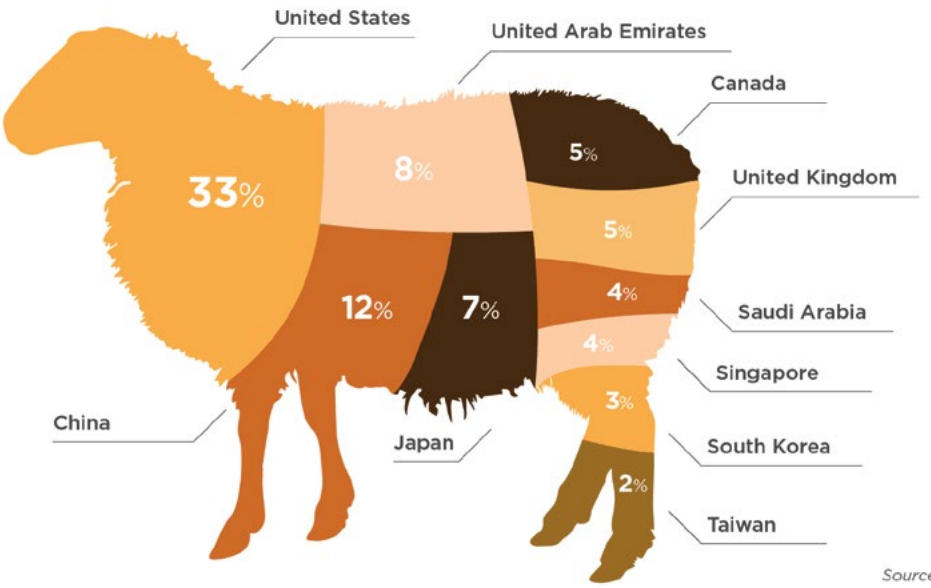
Key **goat** markets USA, Malaysia, Caribbean

NSW key export markets for lamb and sheep continue to be the US, China and the Middle East, while the Australian market continues to register robust demand. In 2015-16, NSW lamb and sheep exports were valued at **$463.9 million, down slightly by 7%** on the previous record export year.

Valued at $10.8 million, NSW goat meat exports **increased 95% in 2015-16**, driven by rising overseas demand, improved supply consistency and the lower Australian dollar. The bulk of NSW goat exports were sent to the US, the Caribbean and Malaysia.

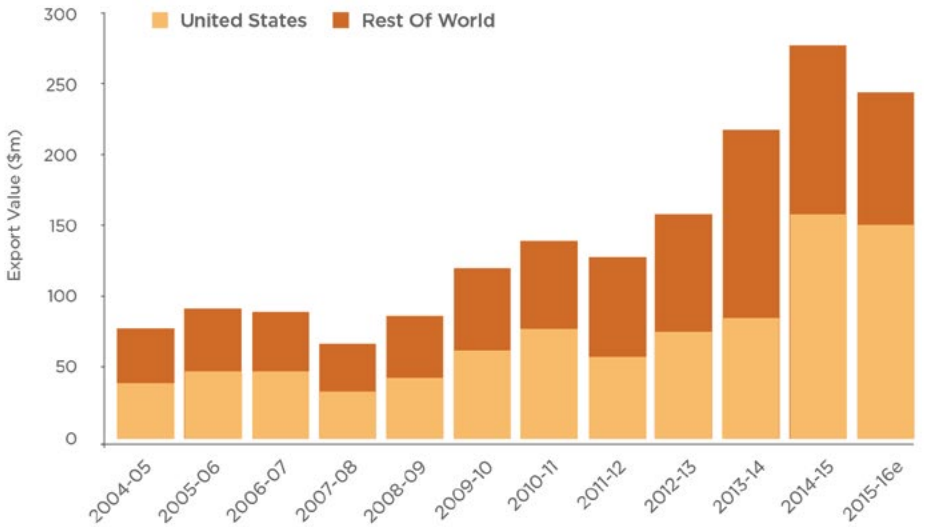
While NSW has the largest herd of rangeland goats in Australia, NSW remains a relatively small exporter of goats and goat meat – at just 4.5% by value in 2015-16. **Most goat and goat meat exports occur out of Victoria and Queensland**.

Top Ten NSW Sheep Meat Export Destinations



Source: GTA (2016)

Australian Goat & Goat Meat Exports



Source: GTA (2016)

NSW DPI developed RamSelect ramselect.com.au – an online tool that allows sheep producers to increase their productivity by selecting the best rams for their flock.

MILK

GVP

$584m ↓5%

Highly publicised price falls

Increases in yield per cow offset a decline in dairy herd

The value of NSW milk production in 2015-16 is estimated to have fallen **by around 5% year-on-year, to $584 million**, largely due to the sharp decline in prices throughout the year.

The volume of milk produced in 2015-16 is estimated to have been largely unchanged on the previous year, at **1,165 million litres**, with an estimated pick-up in production per cow o set by a smaller herd. [v]

Seasonal conditions for NSW milk producers were reported to be average to above-average in 2015-16. [23]

The average farmgate milk price in 2015-16 is estimated to have **fallen by around 5%, to 50c/litre**. Price falls in southern NSW were particularly sharp and well publicised. [v]

The main reason for the decline has been attributed to a decline in the global demand for milk, combined with increased supplies in key markets.

Opening prices offered to Southern NSW producers for 2016-17 range from **Murray Goulburn $4.31 to Bega's $5.00/kg of milk solids**. [w]

This compares to an average price of around $7.30/kg of milk solids 2014-15. [24]

Milk Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	612	584	16%
Export Value	A$millions	8	10	291%
	China	3	5	7 969%
	Singapore	0.1	2	1 306%
	Hong Kong	1	1	225%
Price	Ac/litre			
	Farmgate Prices	53	50	4%
Production	Megalitres of milk	1 160	1 165	7%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); Dairy Australia (2016b); ABARES (2016a)

Source: Dairy Australia (2016b)

MILK

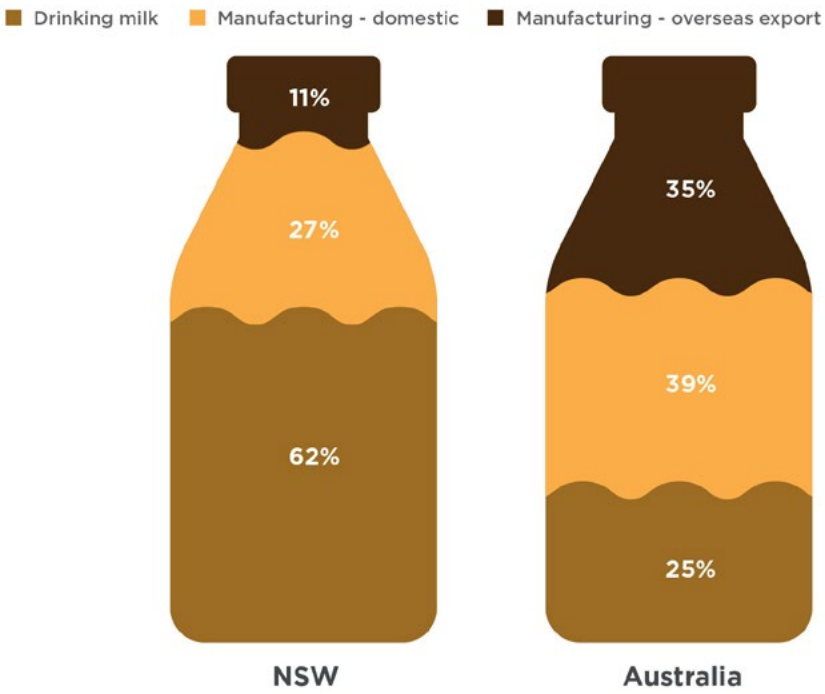
The NSW milk industry is largely domestically focused with the **value of milk exports only 2%** of the value of milk produced in 2015-16.

Data from Dairy Australia suggests that of the milk that is not exported, **around 62% is sold to the drinking milk market, 27% is used in manufacturing dairy products consumed in Australia** and the remaining 11% is used to produce dairy products that are then exported.[25]

The value of NSW milk exports **increased by over 30% in 2015-16** and was largely the result of increased shipments to China.

The **$2.6 million increase** in shipments to China more than o set the fall in shipments to Saudi Arabia, which dropped from **$1.6 million in 2014-15** to almost nothing in 2015-16.

Milk Use



Totals may not equal 100% due to rounding of sub-totals. Source: Dairy Australia (2015)

62% of NSW milk sold domestically is drinking milk

Exports of milk
↑30% to $10m

Exports to **China, Singapore** and **Hong Kong** up significantly

NSW Milk Production

Source: ABARES (2016a)

NSW DPI has a dairy development team working with industry on a range of issues including dairy farm business management and on the adaptation and implementation of automatic milking systems.

POULTRY

GVP
$881.9m ↑1%

Production focus in **Greater Sydney**

Average consumption **45kg per person**

The value of NSW poultry production is estimated to have increased modestly in **2015-16 to be around $880 million**, as slightly higher prices overshadowed lower production.

Poultry is one of the few agricultural industries with a strong regional presence in Greater Sydney and is the **region's prime agricultural commodity**.

Chickens are the largest component of poultry production. In 2015-16, the volume of chicken produced is estimated to have **fallen by 2%**, driven by a fall in the average weight of chickens produced.

The average chicken weight fell from **2.1 to 1.9 kilograms per chicken** in 2015-16 from the previous year.

The number of chickens processed for the year was around **6% higher in 2015-16**, reaching a new high of 184 million chickens. [22]

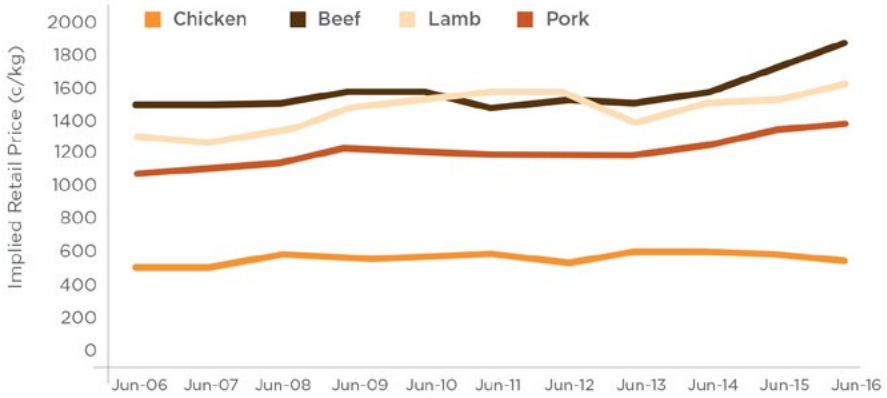
Prices received for poultry declined slightly in 2015-16 compared to the previous year. [22]

Over the past five years, the retail **price of chicken has fallen moderately**, while the retail price of other proteins has increased. In particular, the price of beef and pork are up 20% and 15% respectively. [t][22]

Poultry Key Data		2014/15	2015/16	5yr change
GVP	A$millions	877	882	29%
Export Value	A$millions	15	18	17%
	Japan	2	6	13 427%
	Solomon Islands	3	4	797%
	Kiribati	1	2	38%
Price Ac/kg (cwt) [r]	Retail chicken price	554	513	-7%
Production	Chicken produced (kt)	358	352	0%

Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABS (2016c)

Implied Retail Meat Prices [s]



Higher prices for other proteins has likely supported growth in chicken demand, with annual chicken consumption up by **almost 5kg/person since June 2010**, to 45kg/person in June 2015. Over the same period consumption of beef, sheep meat and pig meat has been steadily falling. [u]

The poultry industry is heavily focused on the domestic market, with exports making up less **than 5% of the gross value of production**.

In 2015-16, **poultry exports reached $18 million**, with more than half of this exported to Japan and the Solomon Islands. Exports to both these countries have grown rapidly over the past five years o very low bases.

NSW DPI is part of a collaborative 2-year project to safeguard the industry from Avian Influenza outbreaks, focusing on actions to reduce free-range farm risk.

EGGS

GVP steady at
$245.3m ↑3%

National consumption since 2002 is
up 72%

28% of the national laying flock in NSW

The NSW egg industry had an estimated value of **$245 million** in 2015-16 with approximately **100.7 million dozen eggs produced**. [x] The GVP for NSW egg industry has been steadily increasing since 2006. [2]

The main regions for egg production in NSW are **Greater Sydney (41%), the Central West (22%) and the Mid North Coast (13.5%)**, as of 2014-15. [2]

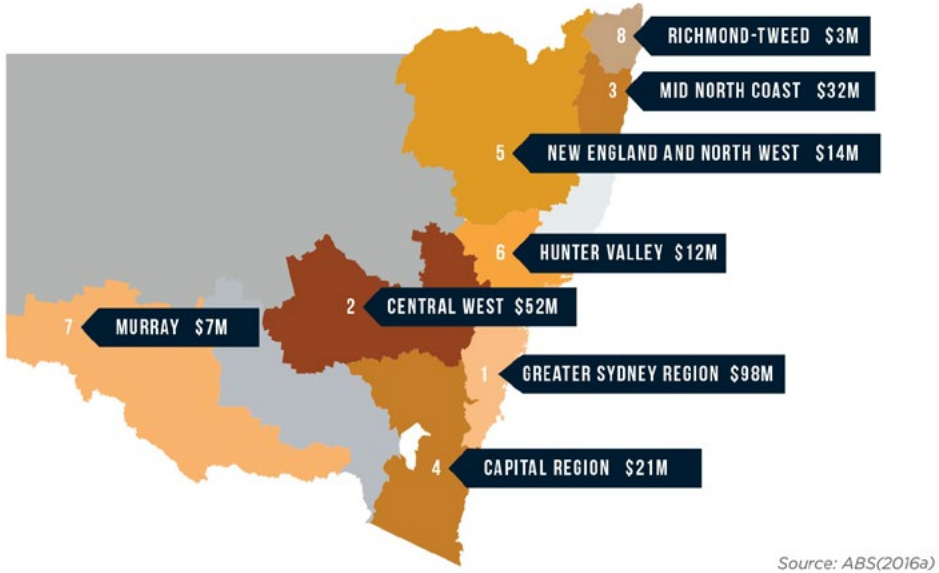
National Egg consumption is estimated at **230 eggs per head annually** as at July 2016, up 72% since 2002.[27]Driving this increase in consumption is industry efforts to build a greater understanding of the nutritional benefits of eggs, combined with positioning eggs as an alternative source of protein.

NSW had **28% of Australia's total flock of laying hens** as of 2014-15 (4.9 million out of 17.5 million), the second most laying hens in Australia after Queensland. [10]

A new standard for free-range eggs, agreed upon by state and territory ministers at the end of March 2016, requires **no more than one hen per square metre**. Approximately **40.7% of all eggs by volume sold in Australia are free range**. [28]

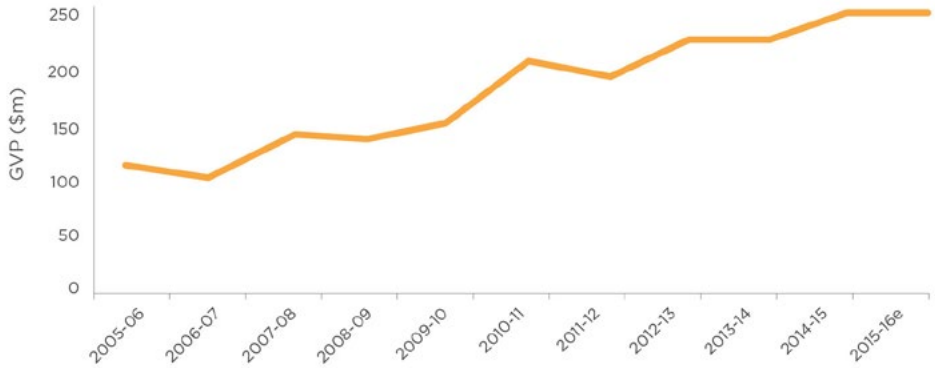
Eggs Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	239	245	27%
Export Value	A$millions	1.0	1.8	191%
	Hong Kong	0.1	0.8	N/A
	Thailand	-	0.7	45%
	Nauru	0.1	0.2	N/A
Price [y]	per dozen eggs			
	Free range $/dozen retail	5.9	5.8	9%
Production [z]	million dozen eggs	96	101	11%

Key Egg Production Regions By Value



Source: ABS(2016a)

NSW Egg GVP



Source: ABS (2016a); NSW DPI (2016)

NSW DPI, through the NSW Food Authority, supports the state's egg industry through low cost food regulation. In 2015-16 over 280 egg businesses were licensed, providing certainty at each step of the supply chain which adds value to the product and culminates in maintaining consumer confidence.

PORK

GVP

$203.8m ↑5%

Murray is key production region – 62% by value in 2014-15

Increasing demand in response to soaring beef prices

In 2015-16 the GVP of the NSW pork industry is forecast to reach **$203.8 million, up 5%** on the previous year.

The vast majority of pork is produced by operators located in the Murray, which accounted for **62% of pork production by value in 2014-15**.

Domestic and export markets registered strong demand in 2015-16. Key factors supporting demand were industry promotions focused on improving quality perceptions, as well as surging retail prices for beef which encouraged protein alternatives.

Increased demand and constrained supply resulted in baconer prices averaging **14% higher for the year**. [26]

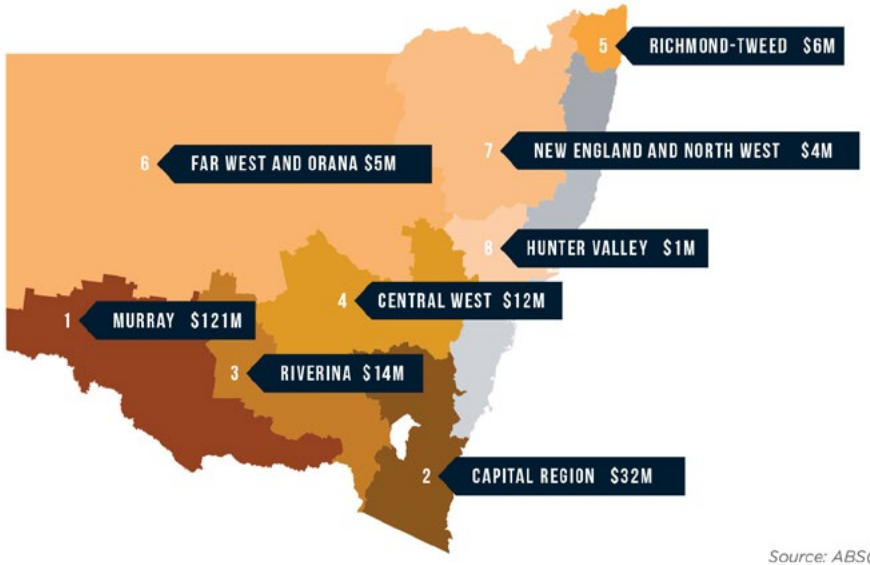
NSW is still a small producer of pork and a net importer of pork products, valued at **$145m in 2015-16**. The key origins of imported pork include Denmark, the US and the Netherlands.

While NSW pork exports are relatively small, **the value increased by 31% in 2015-16**, to $20.5m with growth assisted by the targeting of key export markets.

Pork Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	193	204	23%
Export Value	A$millions	16	21	47%
	Singapore	5	8	-21%
	New Zealand	2	4	42%
	Philippines	2	2	79%
Price	Average baconer price (c/kg HSCW)			
	Average baconer price	319	364	N/A
Production	tonnes (000)	61	63	4%

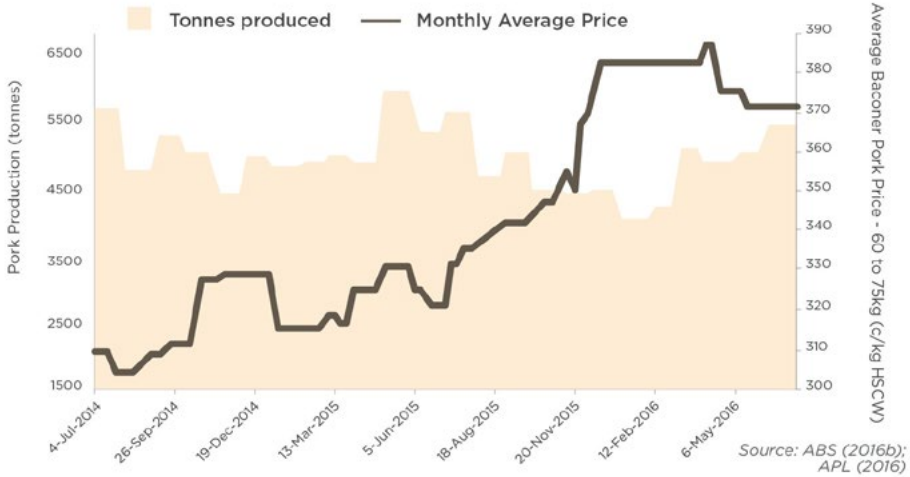
Source: ABS (2016a); NSW DPI (2016); GTA (2016); ABS (2016b); APL (2016)

Key Pig Production Regions By Value



Source: ABS(2016a)

Monthly Pork Production & Average Monthly Baconer Prices



Source: ABS (2016b); APL (2016)

NSW DPI has research offcers working on animal health, nutrition, growth and meat quality and development offcers located regionally to provide general advisory services and information for the industry.

HORTICULTURE

Horticulture GVP

$1.3b in 2014-15

Fruit, nuts & table grapes 45% of GVP, vegetables 33% of GVP

Significant recent growth in tree nuts

The value of horticultural production in **NSW in 2014-15 reached $1.3 billion**.

Of this fruit, nuts and table grapes represented 45% of the value, while vegetables **33%** and nurseries, turf and flowers the remaining **22%**.

The tree nut industry has been a relative success story over the past few years.

The value of nuts in **2014-15 reached $136 million**, $84 million of this from macadamias and a further $35 million from almonds.

Macadamia production is centred on the mid to far north coast of NSW, and has seen a significant **increase in production over the past five years to 2014-15 of approximately 13%.** [10]

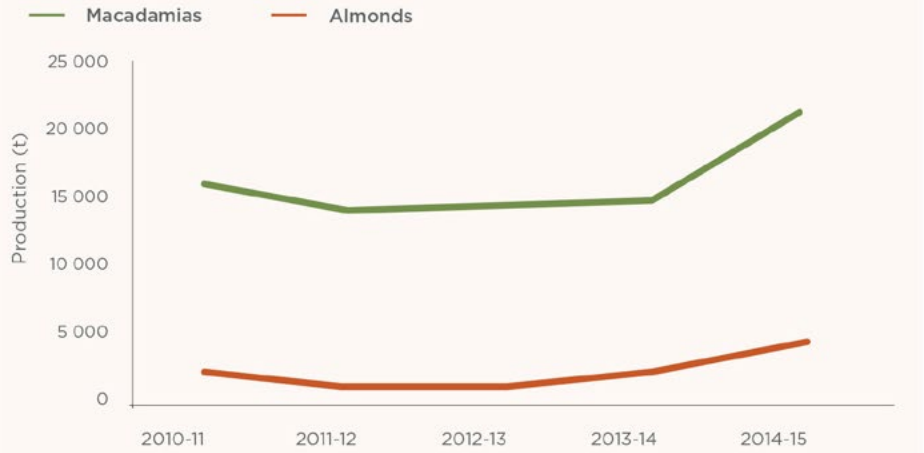
Almonds production is **concentrated in the Riverina and Murray**, and has increased significantly over recent years driven by a large number of trees reaching nut bearing age. [10]

Close to half the value of fruit production in NSW is due to oranges and apples, which were worth **$133 million and $96 million** respectively in 2014-15.

Horticulture Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	1 262	N/A	10%
	Fruit, nuts & table grapes	568	N/A	20%
	Vegetables	418	N/A	11%
	Nurseries	276	N/A	-8%
Export value	A$millions	212	242	81%
	Japan	22	31	41%
	Hong Kong	21	26	137%
	New Zealand	19	22	39%

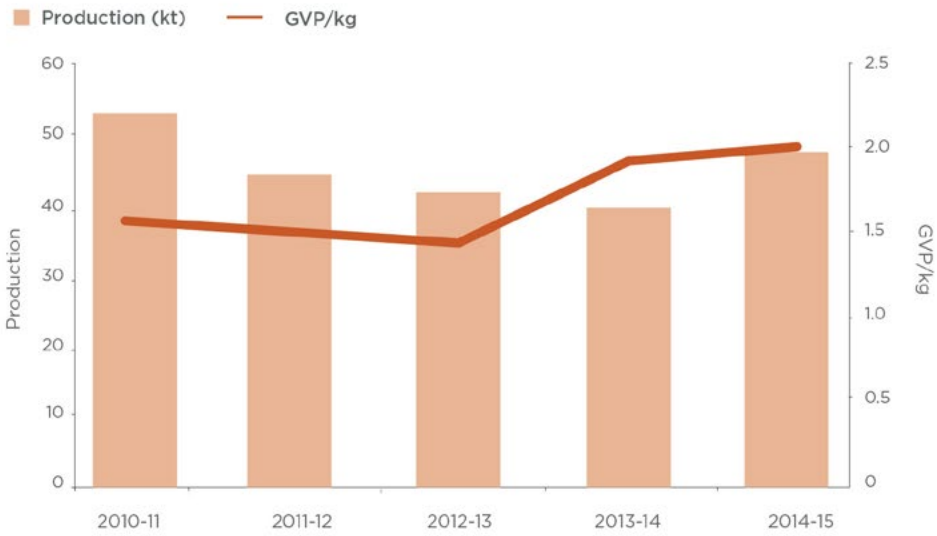
Source: ABS (2016a); GTA (2016);

Tree Nut Production



Source: ABS (2016d)

Apple Production and Unit Value



Source: ABS (2016a); ABS (2016d)

HORTICULTURE

The value of apple production **has grown rapidly** over the past five years at a compound rate of over 10% per year.

This is largely because of steady but significant increases in price since 2011-12 that coincided with the **largest production levels since the 2010-11** season.

Vegetable production reached **$417 million in 2014-15**.

The value of NSW horticultural exports totalled **$242 million in 2015-16**, up 14% on 2014-15.

The main contributor to this growth was fruit exports, which were up 40% on 2014-15 to a total of **$72 million**.

Vegetable exports increased **16%** to just under $20 million.

Nut exports were worth **almost $100 million in 2014-15** though were largely unchanged compared to the previous year.

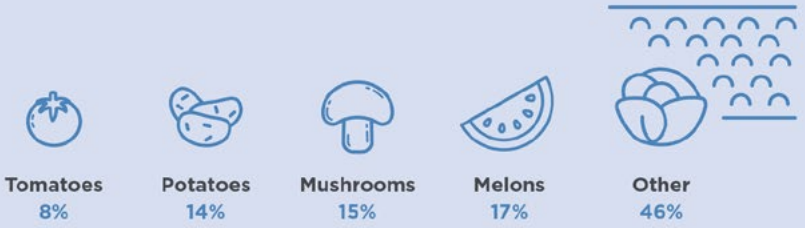
Our **two largest export markets** in 2015-16 were Japan, which consumes large amounts of Macadamia nuts and fresh oranges, while Hong Kong takes a large amount of cherries and plums, nuts and citrus.

Other key export markets include New Zealand, China, the US as well as a variety of other markets which all command significant importance for NSW horticultural exports.

Nursery, Flowers and Turf

Fruit, Nuts & Table Grapes

Vegetables



Source: ABS (2016a)

NSW DPI research and development programs are currently being delivered to support industry growth including: germplasm improvement; farming systems; plant protection; pest management and market access

WINE

Wine grape GVP

$158m in 2014-15

Wine grape production

↑14%

Domestic retail wine price index has increased steadily over time

Wine grape production contributed **$158 million (farm gate) to GVP in 2014-15**, an increase of 15% on the year prior.

Wine production, which includes activities beyond the farm gate, has an estimated value of **$1.6 billion**. [29]

The NSW wine grape industry recorded a significant increase in the volume of production in 2014-15, **rising by 14% to 497 thousand tonnes**. [10]

NSW was the second largest producer of wine grapes in Australia in 2014-15, second only to South Australia. The average yield in NSW was reported to be **14.74 tonnes/ha, the highest of all the states**. [30]

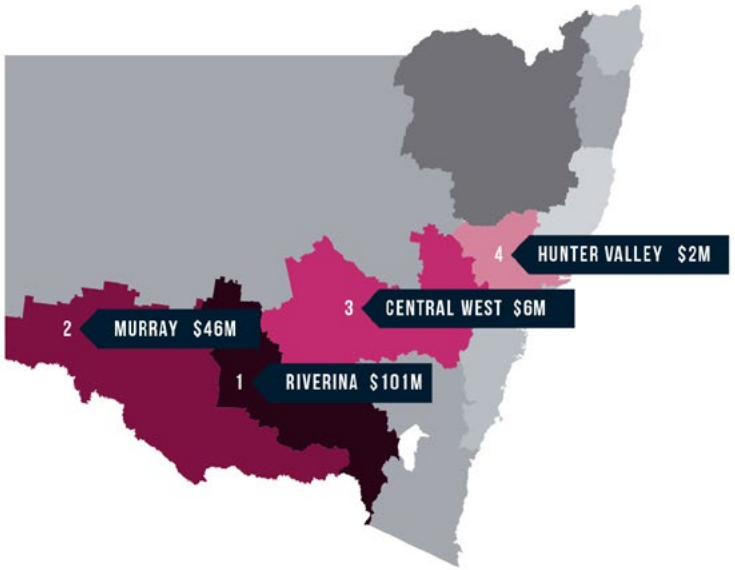
In contrast to export prices, the domestic retail wine index has been trending steadily upwards over an extended period, with 2015-16 prices remaining steady. [8]

Longer term market trends and industry restructure are in response to **a sharp increase in production over the last 15 years**, matching a general decline in national returns.

Wine Key Data [aa]		2014/15	2015/16e	5yr change
GVP	A$millions	158	N/A	N/A
Export Value	A$millions	490	507	-2%
	United States	253	261	-2%
	United Kingdom	57	50	-35%
	Canada	35	45	-2%
Price	Retail Price Index (2010/11 Base Year)	105	N/A	6%
Production	Production ('000 tonnes)	497	N/A	19%

Source: ABS (2016a); GTA (2016); ABS (2016d); ABARES (2016a)

Top NSW Wine Grape Producing Regions



Source: ABS(2016a)

WINE

Shiraz is the dominant red variety grown in NSW, accounting for 45% of red wine grape production. Other important red varieties are Merlot and Cabernet Sauvignon.[30]

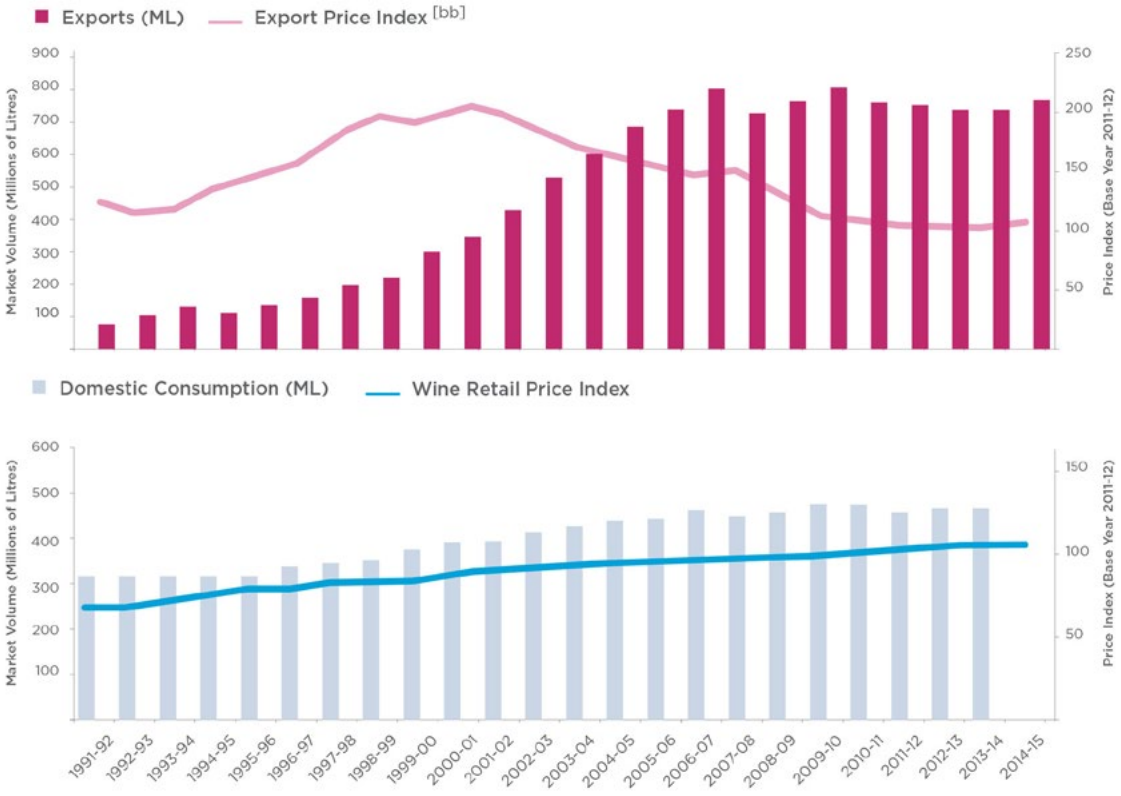
Chardonnay still makes up the bulk of the white wine grape production in NSW, accounting for 38% of production. **Pinot Gris**, **Semillon** and **Sauvignon Blanc** are also significant.[30]

Despite a sharp drop in the volume of NSW wine exports in 2015-16, the value of NSW **wine exports rose by 3%, to $506.8 million** – due to a sharp increase in the reported export unit price.

The four largest export markets are the US, UK, Canada and China and together they make up approximately **77% of the value of NSW exports**. The US is by far the largest market by value and quantity, with a preference for red table wine.

The Chinese export market **grew by approximately 34% to $43.2m in 2015-16**.

Market Volume & Market Price Index



Source: ABARES (2016a); GTA (2016)

Shiraz and Chardonnay main varieties grown

Exports
$506.8m
3% on previous year

NSW exports to China grew by
34%
in 2015-16

Top 10 Wine export destinations

Source: GTA (2016)

NSW DPI in partnership with NSW Wine Industry Association, has installed a weather station network in key NSW wine regions. Real time weather monitoring, linked to disease risk models, enables vineyards to optimise vineyard management, cut costs by reducing disease sprays and avoid crop losses.

FISHERIES

GVP 2014-15 estimated
$147.7m ↑ 1%

Aquaculture GVP
$61m ↑14%

Wild Fisheries GVP
$87m ↓6%

Preliminary estimates indicate that the value of the NSW fisheries industry increased by a modest **1% in 2014-15– to $147.7 million**. An increase in the value of the aquaculture sector of 14% was partly offset by a decline in the wild caught fisheries of 6%. [31] [32]

The wild fisheries sector was worth **$87 million**, making up 59% of total fisheries. Significant contributors to wild fisheries in 2014-15 were prawns, lobster, abalone and Mud Crab. [32]

Wild fisheries were impacted by a decline of 18% in the volume of catch of fish species. The catch volume of crustacean also declined in 2014-15, however, an increase in reported prices due to high demand for some major industries such as King Prawns; School Prawns and Mud Crabs. [32]

Eastern Rock Lobster had a particularly good year, with overseas demand driving prices higher.

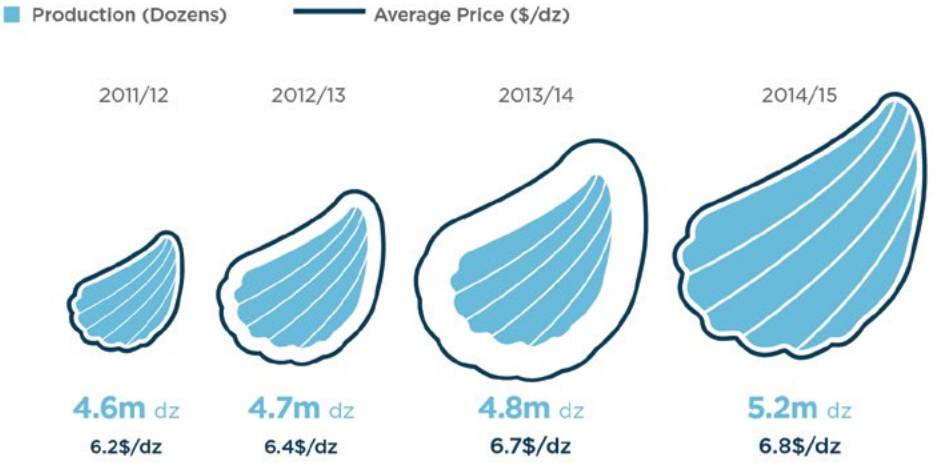
Aquaculture production on the South and Central Coast was impacted by an east coast low in June 2016, while land based production is expected to report an increase during the 2015-16 financial year.

Aquaculture accounted for 41% of the total value of production in **2014-15, worth $60.7 million**. [31]

Fisheries Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	148	N/A	9%
Export Value	A$millions	12	12	16%
	Vietnam	2	3	N/A
	Japan	1	2	-33%
	Spain	-	1	N/A
Production	Wild Caught (t)	11 573	N/A	N/A
	Aquaculture - Fish & Crutaceans (t)[cc]	1 190	N/A	N/A
	Aquaculture - Oysters ('000 dz)	5 532	N/A	N/A

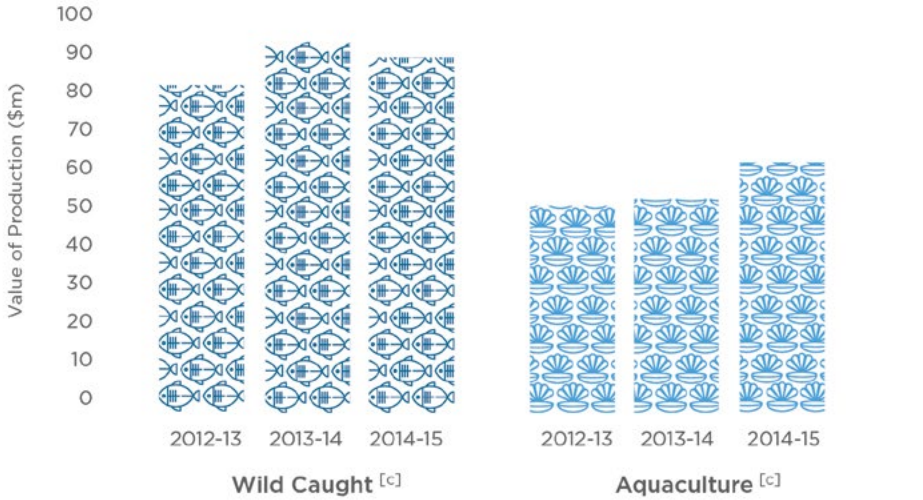
Source: GTA (2016); NSW DPI (2016a); NSW DPI (2016b)

NSW Sydney Rock Oyster Production and Average Price



Source: NSW DPI (2016a)

Wild Fisheries & Aquaculture Value of Production



Source: NSW DPI (2016a); NSW DPI (2016b)

FISHERIES

Exports	Imports	Key import sources include Thailand & China
$12.3m ↑ 1.4%	$579m ↑ 7.2%	

Sydney Rock Oysters made up 57% of the total value of aquaculture production, which was up 9% year-on-year. This was on the back of an increase in the volume of production and an increase in the average price received by farmers. [31]

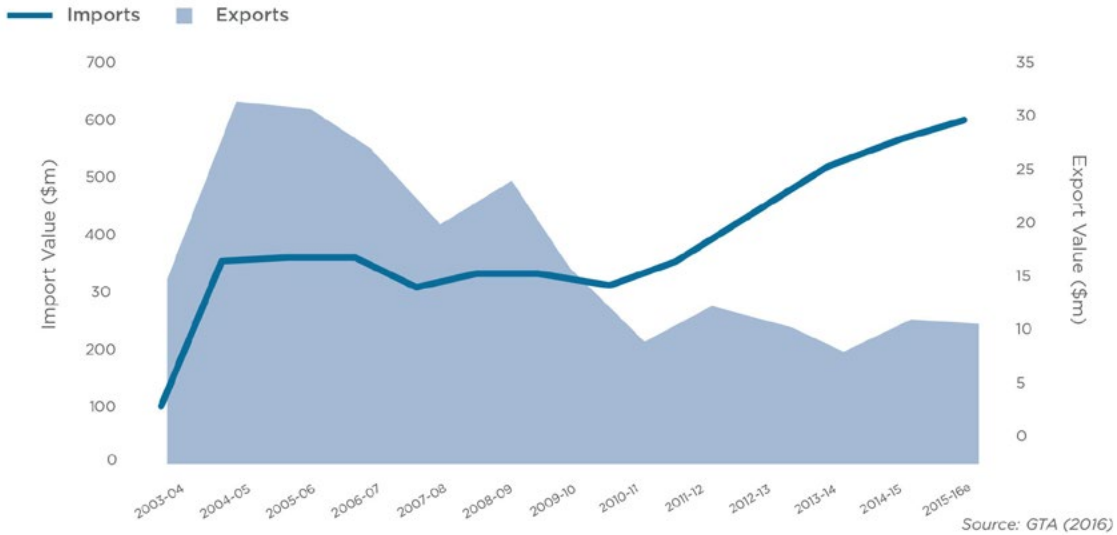
A Pacific Oyster price **increase of 31%** and an increase in production, contributed to higher overall production values. [31]

Black Tiger Prawns increased production by 15%, while Murray Cod had a reported 85% increase in value on the back of significantly higher production.

NSW is a relatively small exporter of fisheries products, with shipments in 2015-16 **totalling $12.3 million - down 1.4%** year-on-year. Fish and crustacean species made up 80% of exports. Our major export destinations include Taiwan, Vietnam, New Zealand and Japan.

The NSW trade balance is heavily weighted in favour of imports, with **$579 million worth of fisheries products being imported in to NSW** in 2015-16. The leading import origins are Thailand and China, with New Zealand and Vietnam also contributing.

NSW Fisheries Export and Import Value



Source: GTA (2016)

Aquaculture performed well in 2014-15 with most species recording an increase in the value of production. Oysters are the largest industry recording a good year with production and prices up.

Aquaculture Tiger Prawns and Murray Cod performed well in 2014-15, with volume and value of production up significantly.

Wild fisheries declined in value modestly due to decreasing volume of catch.

NSW DPI fisheries management strategies have supported improved sustainability and growth in the lobster industry. In 2015-16 the industry was valued at $21 million in 2015-16, the highest for the industry in over two decades. The Total Allowable Commercial Catch limits have supported the recovery of rock lobster stocks to allow stable catch levels, delivering greater economic returns.

FORESTRY

2014 - 15 GVP
$468m ↑24%

Production
5.6m cubic metres
↑2.9%

New dwellings driving demand and softwood price

NSW's forests support the production of logs and downstream industries such as log sawmilling and the preparation of timber for further manufacturing and use.

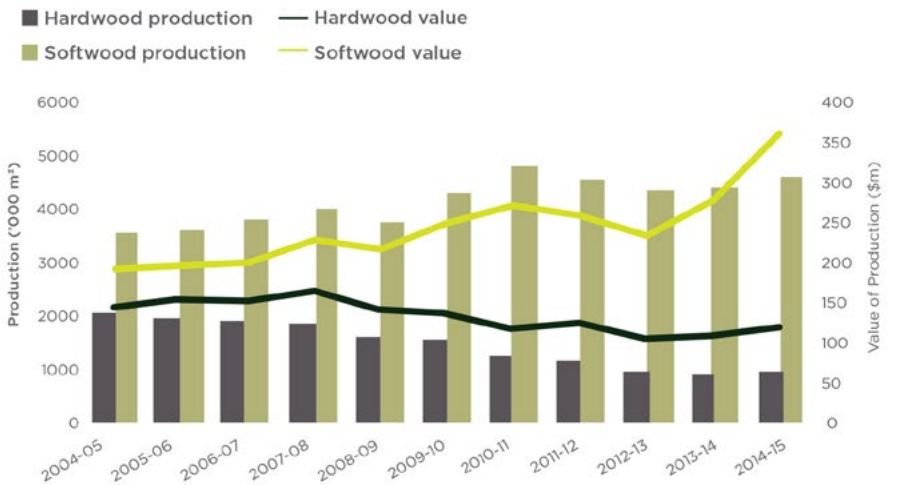
Strongly concentrated in the Central and South West Slopes (softwood) and North Coast (hardwood), timber harvesting activity **is a large employer** and its output serves as an important input to housing construction as well as wood and paper product manufacturing.

The value of logs produced in **NSW rose to its highest value on record in 2014-15 to $468 million**, underpinned by a large increase in the value of softwood production. Plantation softwood (mainly pine) **made up almost 75%** of the value of logs produced in NSW in 2014-15. [33]

The value of native hardwood production, which made up about 25% **of the value of logs** produced, grew strongly in 2014-15 to $115 million. This was from a historically low base. [33]

Plantation hardwood made up only about 1% of NSW's total log production in **2014-15 ($6 million)**.

NSW Forestry Production and Value of Production



Source: ABARES (2016b)

Forrestry Key Data		2014/15	2015/16e	5yr change
GVP	A$millions	468	N/A	25%
Export Value	A$millions	91	92	-52%
	China	67	68	9%
	Taiwan	11	9	-44%
	Japan	2	4	-96%
Price [dd]	A$ per cubic metre			
	Implied softwood price	76	N/A	36%
	Implied native hardwood price	124	N/A	39%
Production - Softwood	Cubic metres of logs produced ('000s)	4 575	N/A	6%
Production - Hardwood	Cubic metres of logs produced ('000s)	981	N/A	-38%

Source: GTA (2016); ABARES (2016b)

FORESTRY

Implied softwood price up

26% Y.O.Y.[ee]

Value-added forestry industries estimated at $2.4b [gg]

Total flow-on employment estimated at

21,700 jobs [hh]

The strong increase in the value of logs produced in NSW has been underpinned by the increasing implied price of softwood (ratio of value to volume), **up by 36% in the five years** to 2014-15. [ff]

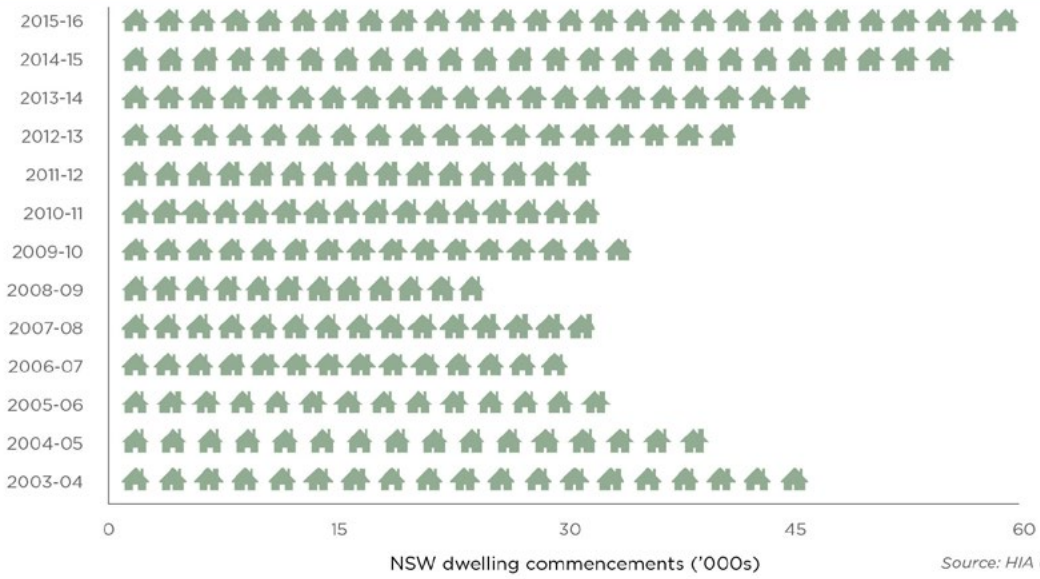
The price rises for **softwood** has been underpinned by strong demand for softwood by the construction industry, with dwelling commencements rising to their **highest level on record in 2014-15**. [34]

Most of NSW's **log production is sold domestically**.

NSW exports of forestry products increased slightly to $92 million in 2015-16 from the previous year.

The largest export markets for **NSW forestry products in 2015-16 were China**, with about 74% of NSW exports, followed by Taiwan and Japan.

NSW dwelling commencements



Source: HIA (2016)

Did you know?

Most of the value-add and employment derived from forest products is created after the logs are delivered to the sawmill. Below are some key statistics about the post-harvest supply chain of forest products in NSW estimated by NSW DPI.

	Value-Add ($m)[gg]		Employment [hh]
	Hardwood	Softwood	
Forestry & Logging	80	169	1 975
Wood Product Manufacturing*	385	817	14 050
Paper & Paper Product Manufacturing	-	936	5 675
Total Industry	2 387.10		21 700

[ff] *DPI estimate of NSW share of national industry value add. NSW share was determined from a 5 year average of NSW share of either sales and service income or GVP to 2013-14. Value add is conceptually different to GVP. Industry manufacturing may use imported inputs.*

Top 10 NSW Forestry Export Markets

Source: GTA (2016)

MACROECONOMIC ENVIRONMENT

Sharp depreciation of the Australian dollar supported higher returns in 2015-16 but also held up the price of imported inputs

Exchange rate

The Australian dollar **depreciated sharply in 2015-16** as lower commodity prices drove the terms of trade down. [11]

Exchange Rate

Source: RBA (2016)

Fertiliser price

Source: ABS (2016f)

Interest rate

Interest rates fell over 2015-16 as the RBA added stimulus to an economy continuing to rebalance itself following the end of the mining investment boom.

Shipping rates

The global bulk shipping industry continued to adjust to a large over supply and sluggish demand with the Baltic Dry Index down 20% over the 2015-16 year.

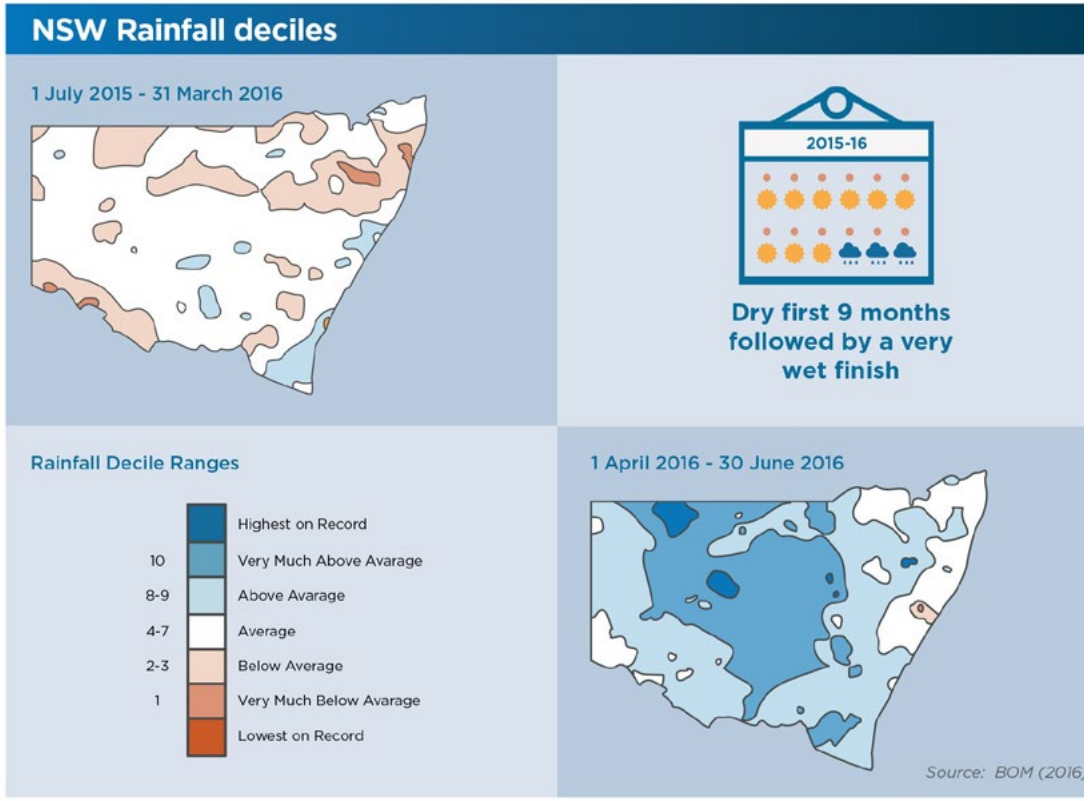
Oil prices

Global oil prices plummeted in 2015-16 due to reduced US import demand, increased production by a number of key exporters, and subdued global demand.

Fertiliser price

Imported fertiliser prices increased in 2015-16 compared with 2014-15 as the sharp depreciation more than offset falling global prices.

SEASONAL CONDITIONS



A strong El Nino event persisted **for the first nine months of 2015-16,** leading to rainfall totals below, and in some cases very much below, average across large areas of the state.

May and June rainfall was well above average across most of the state, particularly across the far west of the state. The change in climatic conditions also coincided with **the warmest NSW** autumn on record.

Upper layer soil moisture deteriorated throughout the first nine months to extremely low levels, before improving rapidly after widespread rainfall in May.

Subsoil moisture was largely moderate to high along coastal areas and below average across some inland parts of the State for much of 2015-16.

Pasture growth was variable throughout the year and was best at the start and towards the end of the year.

WATER

Irrigated production

30% of GVP

Wide application including cotton, rice and horticulture

Irrigated water use largest in the Murray and Murrimbidgeet

Irrigation water underpins the production of cotton and rice, and is also important for the production of fruit and vegetables, some cereals and grains, and pastures for livestock.

Irrigation water is taken from a **number of sources with the most critical** of these the regulated rivers (rivers with major dam storages).

Key Water Data for NSW

Gross value of irrigated agricultural production, 2014-15 ($m)		
Cotton		537
Dairy production		371
Fruit & nuts (excluding grapes)		330
Other		1 816
Total		3 054
Water availability, 2015-16	**Southern**	**Northern**
Average dam storage (% of total)	41	15
Average availability (% of total general security license)	41	6
Water trading, 2015-16	**Volume traded (Ml)**	**Average price ($/Ml)**
General security	489 538	205
High security	243 173	208

Source: ABS (2015b); DPI Water (2016); WaterNSW (2016)

Gross value of irrigated production

The gross value of irrigated agricultural production (GVIAP) in NSW was **over $3 billion in 2014-15**, approximately **25% of GV**. [5P]

The largest irrigated industries by value in 2014-15 were **cotton, dairy production, and fruits and nuts (excluding grapes)**, while the area with the most irrigated production was the Murray. [5]

WATER

Availability [i]

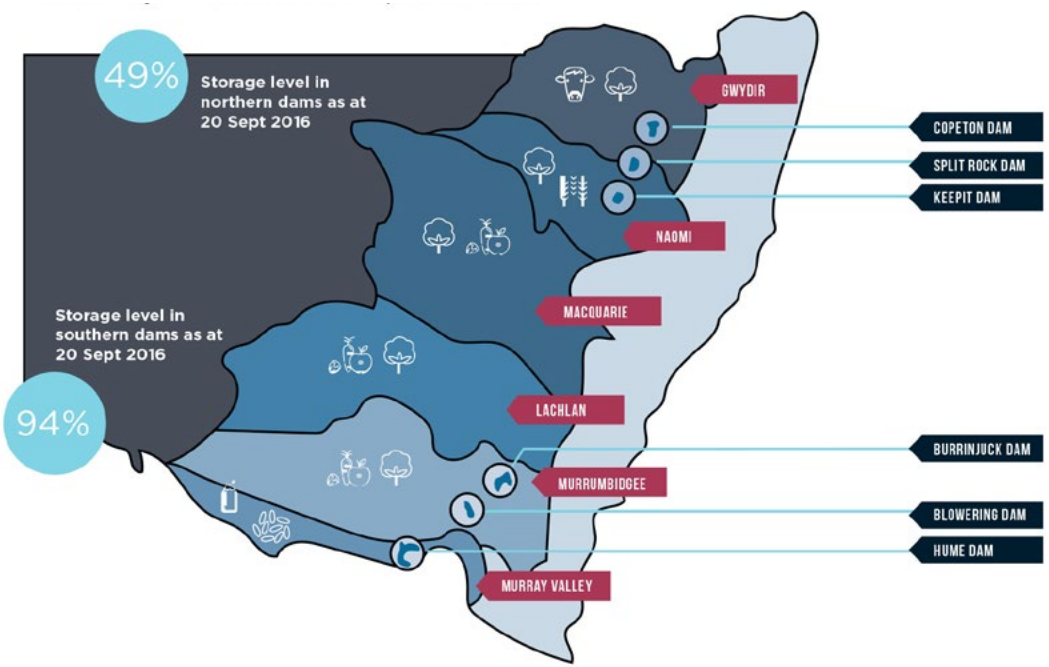
In 2015-16 the **major southern dam storages averaged 41% of capacity down from 50%** the year before, well below the highs of 2011-12. Since June 2016 widespread rainfall has seen inflows boost levels to 94% of capacity as at 20 September 2016, compared to 54% at the same time the year prior. [j][13]

In northern NSW, **persistent dry conditions** contributed to the average level of major storages dropping to 15% of capacity in 2015-16. Winter rainfall in the region has helped storage levels to recover to 49% as at 20 September 2016, compared to 19% at the same time a year earlier. [k][13]

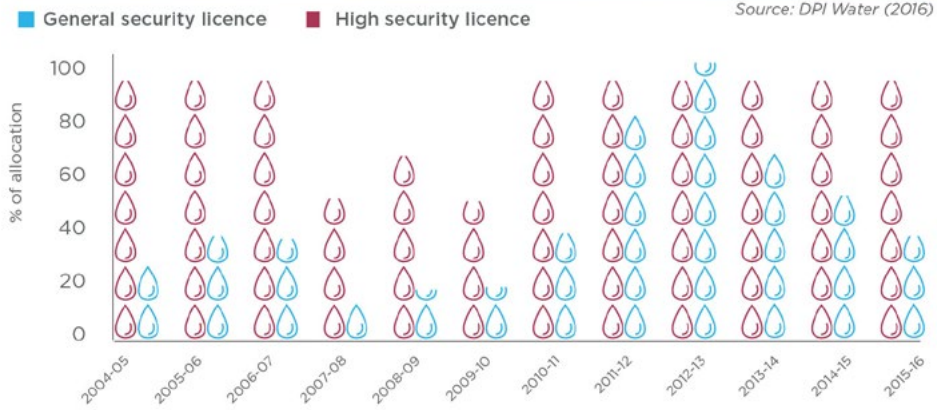
As at 1 September, **the availability for high security licence holders** has averaged 96% of allocations in recent years across the major water sources of NSW. [13]

By contrast, availability for **general security licenses has varied year on year with water availability**. In 2015-16 average availability across the major storages was 34% of the licensed balance with water availability in the south relatively better. [13]

Since June 2016, recent rainfall has seen the availability for the general security licenses increase noticeably to 59% as at the 1 September 2016. [13]



Water Availability

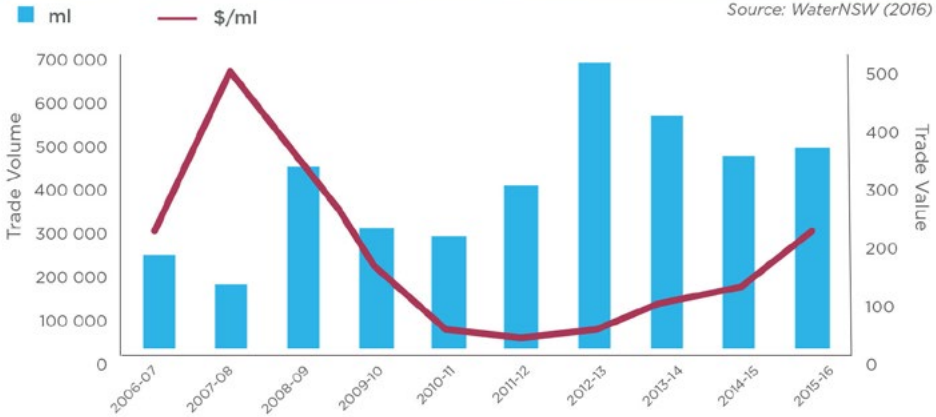


Trade [l]

General security water traded within NSW in 2015-16 was about **490 thousand megalitres** and for high security about 243 thousand megalitres. This was similar to the previous year for general security, but more than a **75% increase for high security**.

The weighted average price per megalitre for all trades also rose in 2015-16, up by about 70%. [m][6]

Water Trade - General Security Licenses



NSW DPI has improved real time access to water availability data for farmers, to assist them to make more informed decisions to better manage their business.

FOOD SAFETY

1000s of businesses across the food supply chain

93% compliance rate

14,000 audits and inspections

Food safety supports the value of primary industries by providing consumers with the confidence that **NSW primary products are safe**, of high quality and ethically produced.

The food authority licenses over 3,000 primary producers, 64 abattoirs, 700 processors, and thousands of businesses involved in transport and storage.

The majority of these businesses are involved with the **meat, seafood and dairy industries**.

In 2015-16 the Food Authority of NSW undertook around **14,000** audits and inspections.

The overall compliance rate with the standards required of licensed food businesses was **93%**.

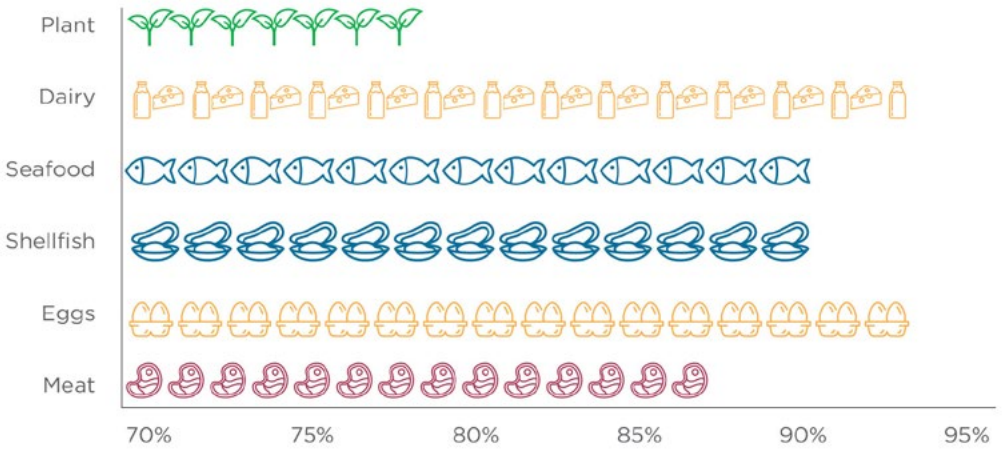
This is marginally lower than the 95% strategic goal the food authority seeks to achieve by 2020.

The reduction in compliance rates was largely caused **by seafood and shellfish businesses**. Across the reporting segments, compliance figures were mixed.

Compliance rates were mixed across the reporting segments.

Compliance rates at consumer facing businesses (food retail and businesses providing food to vulnerable persons) were also high (at or above the 95% strategic goal).

Industry compliance Rates



BIOSECURITY

100s of projects

Over 500,000 diagnostic tests

500 audits and inspections

Biosecurity supports the value of primary industries by enabling production to occur in an environment where there is **minimal risk from pests, disease and weeds**.

In 2015-16 over 100 projects were underway that were tasked with **enhancing community engagement, protecting and enhancing demand** for primary industry outputs, delivering more approriate legislation, and reducing regulatory burden.

In 2015-16 the laboratories at the **Elizabeth Macarthur Agricultural Institute** (EMAI) received 20,000 requests, equating to over 500,000 diagnostic tests.

A large majority of these tests were to ensure that animals and plants were **free from disease** to allow Australia to trade in export markets.

Customers of the laboratories at EMAI include researchers, Local Land Services, all levels of Government, rural producers, veterinary practitioners, seed suppliers and the private sector.

Over **400,000** of the diagnostic tests related to animals, with the bulk of these for cattle and sheep.

A further **7,000 diagnostic tests** related to plants, while the number of analytical tests undertaken on oils and stockfeed was over 100,000.

In 2015-16 DPI Biosecurity undertook around 500 audits and inspections; 1,000 investigations; issued nearly 7,000 permits/certificates; and quarantined almost 700 properties.

The State Veterinary Diagnostic Laboratory developed DNA barcoding tests to support species identification of potentially illegal chameleon and hedgehog species that may harbour pathogens that present a serious biosecurity threat.

A notable increase in the number of submissions sent to the Plant Health Diagnostic Services unit was observed due to the long, hot summer and subsequent high rainfall. Blueberries were an example of a crop affected by the weather related increase in stress and disease.

SOURCES

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END NOTES

[a] Unless otherwise stated all 2014-15 GVP data (including by region) is sourced from ABS (2016a) and 2015-16 GVP data are NSW DPI estimates

[b] Sheep Meat and Goats GVP includes “other n.e.c”. DPI draws the conclusion this incorporates goat meat. Data sourced from ABS (2016a)

[c] DPI estimate. Data sourced from NSW DPI (2016a) and NSW DPI (2016b)

[d] Other GVP represents the total GVP of agriculture in 2014-15 less the GVP of the agricultural industries represented individually above. Data sourced from ABS (2016a)

[e] DPI estimate where number of jobs are calculated by averaging four quarters (up to May 2016) of employment data related to each industry. Relevant Sub-divisions sit under the division “Agriculture, Forestry and Fishing” in the ANZSIC Classification. Data was sourced from ABS (2016e)

[f] DPI estimate where number of jobs are calculated by averaging four quarters (up to May 2016) of employment data related to each industry. Relevant Sub-divisions sit under the division “Manufacturing” in the ANZSIC Classification. Data was sourced from ABS (2016e)

[g] DPI estimate where number of jobs are calculated by averaging four quarters (up to May 2016) of employment data related to each industry. Relevant Sub-divisions sit under the division “Agriculture, Forestry and Fishing Support Services” in the ANZSIC Classification. Data was sourced from ABS (2016e)

[h] Unless otherwised stated all trade data is sourced from IHS Global Trade Atlas - GTA (2016)

[i] Availability refers to water available due to carryover water plus water through an available water determination (AWDs). Data was sourced from DPI Water (2016)

[j] The major southern storages are Hume, Blowering and Burrinjuck dams.

[k] The major northern storages are Keepit, Split Rock and Copeton dams.

[l] The volume of water traded and its price reflect all temporary water trades in NSW (both intrastate and interstate trade) with a price per megalitre of greater than $5. Raw data derived from WaterNSW (2016)

[m] Weighted by the volume of the trade.

[n] Rice harvested area, yield and production data is an average for the period 2005 to 2015.

[o] The volume of water traded and its price reflect all temporary water trades in NSW (both intrastate and interstate trade) with a price per megalitre of greater than $5. Raw data derived from WaterNSW (2016).

END NOTES

[p] 2015-16 sugar production is a DPI estimate based on the production growth recorded by ASMC (2016), and applied to ABS (2016a) 2014-15 sugar production.

[q] 2014-15 sugar price is a DPI estimate used by dividing GVP by production. 2015-16 sugar price is derived by applying ABARES (2016c) price growth to 2014-15 price.

[r] Implied retail price is calculated from retail prices reported by ABS (Cat No. 6403.0) in June 2011 and adjusted using CPI data reported for June annually.

[s] Implied retail price is calculated from retail prices reported by ABS (Cat No. 6403.0) in June 2011 and adjusted using CPI data reported for June annually.

[t] Implied retail price is calculated from retail prices reported by ABS (Cat No. 6403.0) in June 2011 and adjusted using CPI data reported for June annually.

[u] Apparent consumption is calculated as production less exports plus imports. DPI estimate, based on information received from Dairy Australia.

[v] DPI estimate based on information received from Dairy Australia

[w] From company announcements. Murray Goulburn price includes repayment deductions

[x] Egg production is implied by applying the average change in national grocery sales egg volume between 2014-15 and 2015-16. Source of the data was unpublished data from the Australian Egg Corporation Limited

[y] Implied retail price is calculated from retail prices reported by ABS (Cat No. 6403.0) in June 2011 and adjusted using CPI data reported for June annually.

[z] 2015-16 egg production is implied by applying the average change in national grocery sales egg volume between 2014-15 and 2015-16. Source of the data was unpublished data from the Australian Egg Corporation Limited

[aa] If available, the 5 year change is calculated based on the latest year reported for each respective measure in the table.

[bb] Export price index was determined by measuring the annual export unit price (base year 2011-12 = 100). Data was sourced from ABARES (2016a)

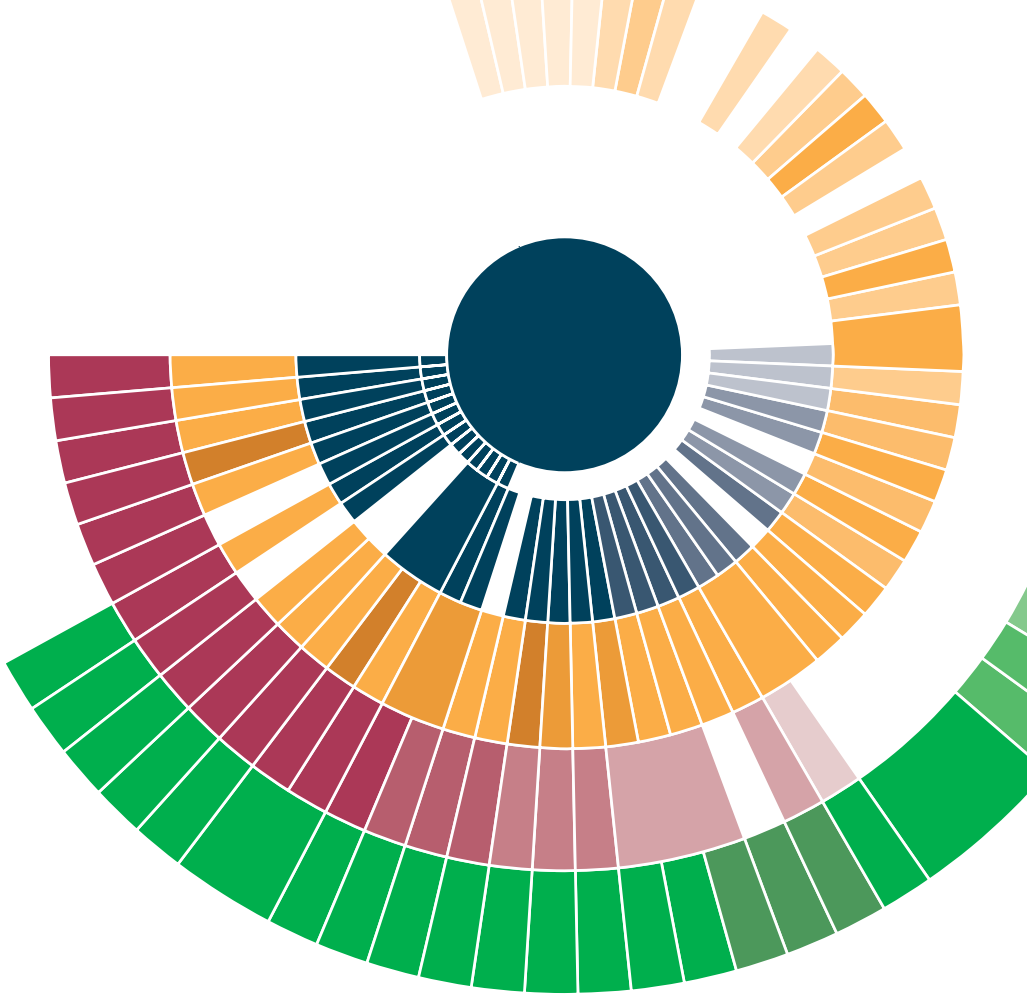
[cc] Does not include other species ned.

[dd] Implied price was determined by dividing the gross value of log production by the volume of log production. Data was sourced from ABARES (2016b)

[ff] Implied price was determined by dividing the gross value of log production by the volume of log production. Data was sourced from ABARES (2016b)

[gg] DPI estimate of NSW share of national industry value add. NSW share was determined from a 5 year average of NSW share of either sales and service income or GVP to 2013-14. Value add is conceptually different to GVP. Industry manufacturing may use imported inputs. Industry value add represents the value added by an industry to the intermediate inputs used by the industry. It is the measure of the contribution by manufacturing businesses to gross domestic product. As a measure of economic activity it is not equivalent to operating profit before tax. Data was sourced from ABARES (2016b)

[hh] DPI estimate where number of jobs are calculated by averaging four quarters (up to May 2016) of employment data related to each industry. Relevant Sub-divisions sit under the division “Agriculture, Forestry and Fishing” and “Manufacturing” and “Agriculture, Forestry and Fishing Support Services” in the ANZSIC Classification. Data was sourced from ABS (2016e)



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