



Department of  
Primary Industries

NSW PRIMARY INDUSTRIES  
**PERFORMANCE  
DATA & INSIGHTS**  
**2020**  
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Disclaimer: The information contained in this publication is based on the knowledge and understanding at the time of writing (September 2020). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the NSW Department of Primary Industries or the user's independent adviser.

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# Foreword

## Minister for Agriculture and Western NSW

This year was challenging for our primary producers, their families and our State's rural communities, however I am proud to have witnessed the strength, solidarity and resilience that has been displayed.

The continuation of one of the worst droughts on record was quickly followed by a catastrophic bushfire season that destroyed millions of hectares of land, stock and feed.

The effects of the COVID-19 pandemic have also led to significant adaptations in how farmers conduct their business, including variations to sale yards, tighter rules around exporting products and changes in customer demand.

Throughout these challenges, the NSW Government has continued to support our state's hard-working primary producers.

More than \$4 billion in drought assistance and water security measures has been dispersed throughout NSW. Farmers also accessed \$2.3 billion in bushfire recovery funding and we continue to work closely with national and international stakeholders to assist in tackling the challenges of COVID-19.



While many industries have been impacted by the current climate, NSW has demonstrated its resilience and versatility. Adapting to these challenges, the State's farmers have produced an estimated total output of \$15.7 billion in the 2019-20 financial year.

This is an outstanding result and only 4% less than the prior corresponding period.

With improved weather conditions in many areas of the state resulting in bumper crops and renewed optimism, combined with the wholehearted support of DPI, there are great opportunities on the horizon for our farmers, their families and rural communities to continue to adapt, grow and most importantly, thrive.

The Hon. Adam Marshall, MP

## Director General NSW Department of Primary Industries

The 2019-20 financial year will go down in history as one of the most challenging on record. NSW primary producers faced a third straight year of one of the worst droughts in history, intense bushfires across large parts of the state, and extreme challenges brought about by the COVID-19 pandemic.

Despite these challenges, NSW primary industries have remained strong, with farmgate prices for livestock increased in demand, while crop production was down in all areas except wheat and rice.

The economic output detailed within the NSW Primary Industries Performance Data & Insights (PDI) each year since 2016 highlights the underlying strength, resilience and long-term viability of the NSW primary industry sector.

The NSW Department of Primary Industries (DPI) is committed to continuing to increase the value and economic growth of primary industries across NSW. This aligns with the [DPI Strategic Plan \(2019-2023\)](#) which aims to drive stronger primary industries across NSW.

I am proud of the support and assistance DPI's wide-reaching team of passionate staff



has been able to offer to farmers and rural communities across industries including agriculture, biosecurity, food safety, forestry and fisheries.

We will continue to ensure DPI has the right priorities in place to deliver our goal of having a 29 per cent Gross Value Production (GVP) growth to achieve a total NSW primary industries output of \$19.3 billion by 2023.

As one of the top plant, animal and environmental research organisations around the globe, DPI also remains committed to working collaboratively with industry to manage a broad range of research and development initiatives which will drive business excellence.

I hope you enjoy reading this publication, which is a valuable resource for anyone interested in the NSW primary industries sector and stands as a testament to the continued determination, strength and resilience of the sector.

A handwritten signature in black ink, appearing to read 'Scott Hansen', written in a cursive style.

Scott Hansen



# Executive Summary

Primary producers across NSW once again faced many challenges during 2019-20. On top of a third year of drought, producers also faced intense bushfires through late 2019 and early 2020 and the COVID-19 pandemic from March 2020 onwards.

Despite these challenges, the fundamentals which underpin NSW's primary industries have remained strong with high demand and stable prices in most sectors.

NSW primary industries reached an estimated total output of \$15.7 billion in 2019-20, a modest decline of 4% year-on-year as a result of the compounding challenges the industry faced over the year. Output excluding the service industries of hunting and recreational fishing reached an estimate of \$12.2 billion.

Recreational fishing, including charter fishing, and hunting and game management activities had a combined estimated value of \$3.5 billion.

Seasonal conditions for many parts of NSW improved in the second half of the year, especially in Autumn which improved the outlook for winter crops and pasture growth. The continued favourable conditions leading to harvest is expected to see NSW primary industries well positioned for a stronger and more profitable year in 2020-21.

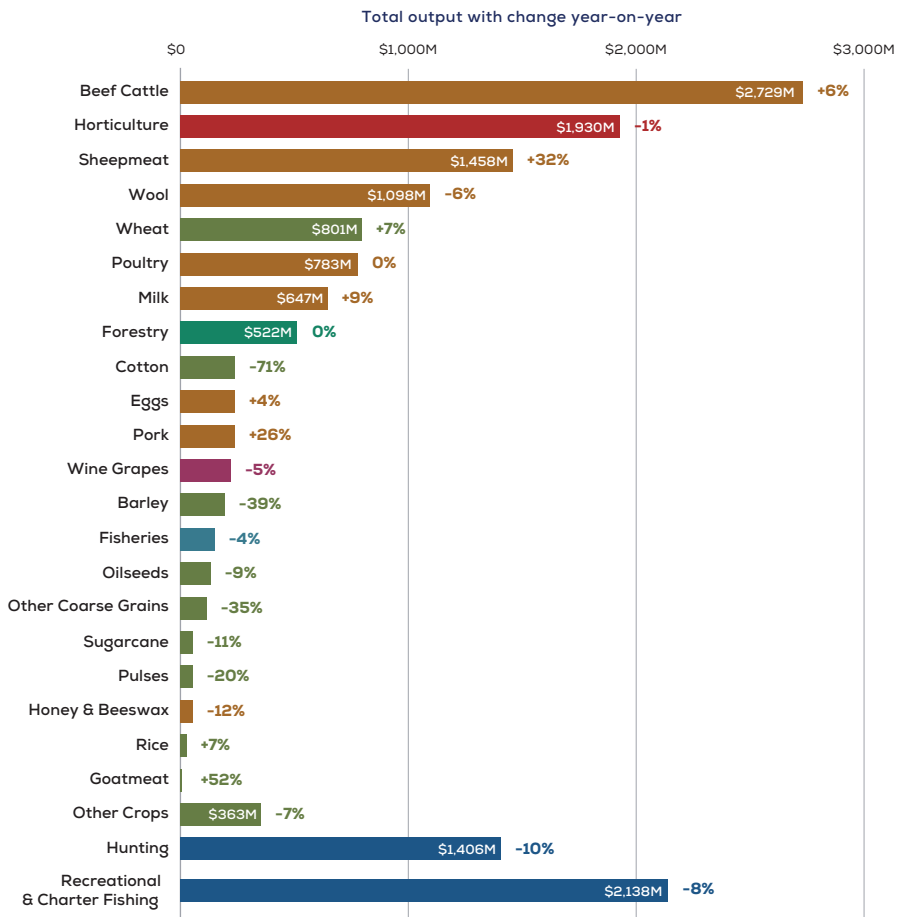
NSW primary industry exports earned \$5.1 billion (excluding cotton exports with an estimated additional value of \$611 million <sup>af</sup>), with large increases in beef, sheepmeat, and horticultural exports driven by both higher volumes and prices.

COVID-19 created a need for primary industries to be creative in dealing with issues such as stock sales through sale yards, disrupted supply chains and changes in end demand. However, it also provided an opportunity to highlight the critical and essential services provided by NSW primary industries. With more than 70% of Australia's agriculture and fisheries production exported, there was little risk to food security despite the disruptions to supply chains.

This publication showcases the diversity of NSW's primary industries and profiles key drivers of each sector.

Throughout the publication you will find case studies showcasing how DPI works to increase the value of primary industries and drive economic growth across NSW. This links with the DPI Strategic Plan for 2019 to 2023 <sup>6a</sup> which outlines the role of DPI in driving stronger primary industries across NSW.

## Total Estimated Primary Industries Output 2019-20





# Key Export Markets<sup>94</sup>

NSW primary industry exports accounted for 10% of NSW total exports in 2019-20 and earned \$5.1 billion, up 2% on the previous year with large annual increases in the value of beef, sheepmeat and wood exports. Due to state level data restrictions on cotton exports imposed in 2018 the adjusted estimated total export value is \$5.5 billion<sup>af</sup>.

NSW top three export markets by value in 2019-20 were China, United States and Japan. China increased 6% on the previous year to reach a notable \$2,091 million, accounted for 41% of NSW primary industry exports and was the largest export market for all

major commodity groups. Exports to the U.S increased 12% to \$689 million with red meat exports driving a large proportion of the increase in value. Beef exports accounted for 48% and sheepmeat accounted for 38% of exports to the U.S. Japan, the third-largest export market by value, only recorded a marginal 0.2% increase in value to \$614 million.

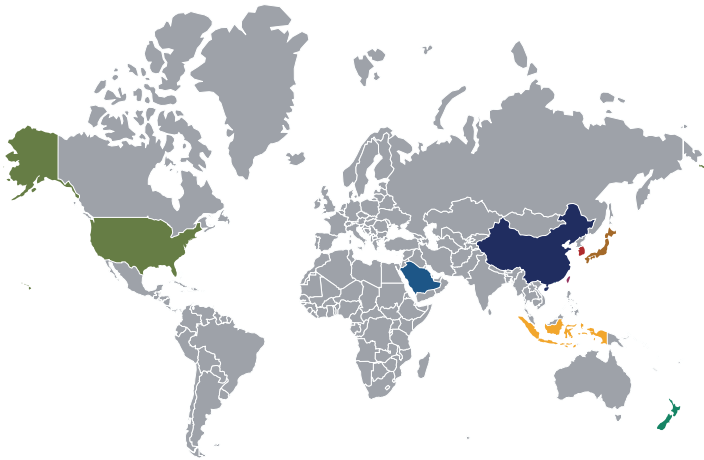
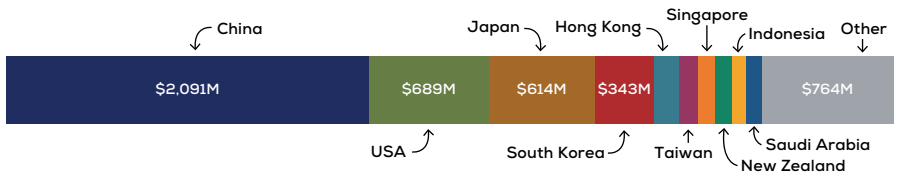
Seven of the ten largest markets by value in 2019-20 were in located in Asia, highlighting the importance of these markets to NSW primary industries. The share of exports to North, South East and South Asia continues to grow, up from 67% in 2009-10 to 73% in 2019-20.







## Top 10 export destinations



Source: GTA (2020)

NSW total primary industries export value growth has been relatively low over the past three years, mainly due to a substantial decline in the value of cropping exports (down 95% or \$2,665 million since July 2017) as a result of the relative absence of an export surplus. Despite this, it is encouraging to note that when this decline in the value of cropping is

taken into consideration, all other commodities recorded enough growth to maintain the total value of exports to its current level. A significant proportion of this growth over the last three years came from livestock with the value of livestock and livestock product exports increasing by 42% since July 2017.



# Macroeconomic Conditions

## Drought

2019-20 was a challenging year for NSW primary industries. Drought affected NSW, with record low rainfall for the first 7 months resulting in near record low grain crops and continued destocking.

The season turned in autumn 2020, with significant rainfalls across the coastal and central regions, boosting soil moisture profiles, encouraging pasture growth, and allowing a significant winter crop to be planted for the following year. The return to more favorable conditions resulted in beef and sheep farmers starting to rebuild herds and encouraged supply growth in milk and horticulture.

## Bushfires

Summer bushfires destroyed over 2,000 houses in NSW, burning over 5 million hectares and causing air quality issues across the state. Almost 3 million hectares of State forest were burnt, while fire and smoke taint damaged orchards and vineyards in the Blue Mountains, Hunter and Snowy Valleys, and the air quality in parts of NSW was recorded as some of the worst worldwide <sup>144</sup>.

## COVID-19

The COVID-19 pandemic spread globally from January 2020, with over 500,000 deaths worldwide, including over 100 in Australia by June 2020. The virus began in China and started spread to Japan, Thailand and the United States, then Europe. By June 2020 the United States, Brazil and United Kingdom were the worst affected countries <sup>145</sup>.

COVID-19 led to temporary shifts in export patterns but in-general, agriculture endured the initial disruption relatively well. However, globally, the resulting economic contraction will have much longer-lasting effects, with the full impact of the pandemic on NSW primary industries yet to be fully realised.



## Record Australian Export Values

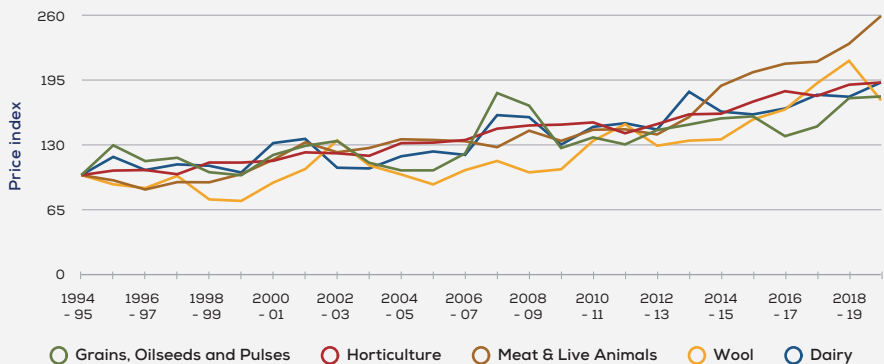
The value of Australian primary industry exports reached \$37.9 billion in 2019-20, the fourth most valuable year on record<sup>94</sup>, highlighting the resilience of agricultural exports despite supply constraints brought upon by drought and trade disruptions resulting from the COVID-19 outbreak.

Historically, price growth has varied significantly across commodities but overall the total value of primary industry exports has been growing compound annual rate of 4.1% per annum over the last 10-years and at a compound annual rate of 5.3% per annum over the last 3-years<sup>4</sup>.

## International

In January 2019 the United States and China signed the Phase One trade deal, in which China agreed to purchase a substantially higher amount of agricultural commodities as well as other intellectual property and financial services measures<sup>9</sup>. Following this, the United States gained access to the Chinese market for additional exports of fruit and vegetables and approval of more abattoirs to export meat to China. This does not appear to have affected Australian trade in 2019-20 however, has the potential to displace Australian exports into the future.

Primary industries export price index



Source: <sup>4</sup>ABARES (2019c)



## OVERVIEW

# Cropping

Crop production was defined by below average rainfall across much of the state leading to limited soil moisture and severely reduced water allocations

for crop production. Regional rainfall variations, particularly over winter aided some modest improvements in southern cropping areas.

## Winter Crops

Winter cropping proved resilient in 2019-20, increasing by 3% year-on-year and 3.34 million tonnes in total, produced predominantly from southern cropping regions. Yields improved year-on-year for all major cropping commodities except for barley<sup>10</sup>. Prices for most winter crops eased for the year however, remained above the moving 10-year average levels underpinned by solid domestic demand. Wheat prices eased 6% year-on-year on average to \$332/t, while barley prices fell 21% to \$271/t with new Chinese barley duties being imposed in our largest export market<sup>9</sup>.

## Summer Crops

A lack of rainfall meant general water security allocations were limited across all major river systems. The total summer cropping area declined sharply by 80% to just 128,000ha, while total summer crop output also fell by 65% in volume terms<sup>10</sup>. Cotton prices gained some momentum through the year supported by a lower Australian dollar and tariff free access

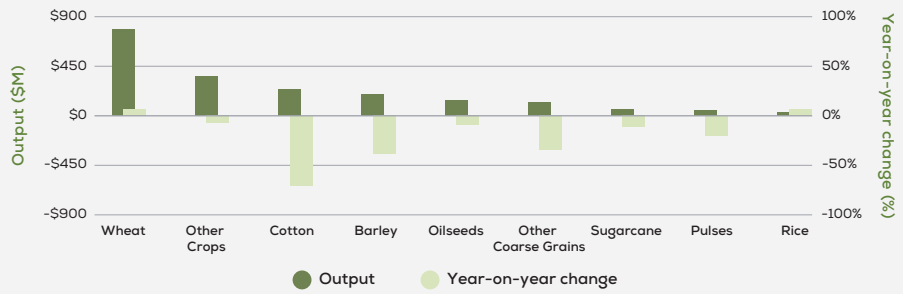
to China however, the COVID-19 pandemic saw consumer demand for cotton eroded. Conversely record rice prices averaging \$750/t were offered to entice growers to utilise limited water allocations for rice rather than alternate crops or temporary trade<sup>9</sup>.

## Outlook

The outlook for 2020-21 is significantly improved production, with total winter crop output forecast to increase 344% to 14.8 million tonnes in total, the largest crop since 2016-17<sup>10</sup>. The prospect of increased summer crop production is also promising with improved on-farm storage levels, a near full soil moisture profile and improved water allocations. The increased production is forecast to impact on prices as domestic demand decreases for livestock feeding purposes. Wheat prices are forecast to fall approximately 20%, while barley prices will also be weighed down by import duties to China<sup>9</sup>. Demand for cotton is expected to remain subdued due to COVID-19 while food staples such as rice will benefit from solid international demand for our product<sup>83</sup>.



## Cropping Estimated Output 2019-20



Source: DPI (2020)

## Weed control in winter crops

Farmers can get the latest information on effective weed control, which is vital for successful and profitable crop production in the DPI 2020 Weed control in winter crops management guide.

This guide provides important information on the new products and registrations for 2020, the recommended timing for applying herbicide and application rates covering winter cereals, pulses and oilseeds.





C R O P P I N G

# Cotton



Limited water availability meant cotton production fell to the second lowest in NSW history, while prices fell along with consumer demand due to COVID-19.

💰 Output \$249M est.

⬇️ Down 71% yoy.

## Production

Consecutive seasons of below average rainfall diminished water allocations available for cotton production and as a result just 418,000 bales were produced in 2019-20, the second lowest on record. This represented 71% of the national crop, reflecting the harsh seasonal conditions in Australia's other major cotton producing state, Queensland <sup>10</sup>.

Yields were significantly improved, up 59% from the previous year to 9.9 bales/ha, as growers limited plantings to areas that corresponded with known water allocations to grow a full crop <sup>10</sup>.

## Price

Cotton futures prices have been following a steady downward trajectory since mid-2018 when China imposed retaliatory tariffs of 25% on US cotton imports <sup>125</sup>. Mitigating the decline for Australian prices has been a declining exchange rate and tariff free access to China for Australian cotton, which has supported local basis. Spot prices rose up to January 2020, which then corrected as the COVID-19 pandemic triggered a drop in both consumer and therefore spinning mill demand as the global economic fallout became apparent.

## Macroeconomic Conditions

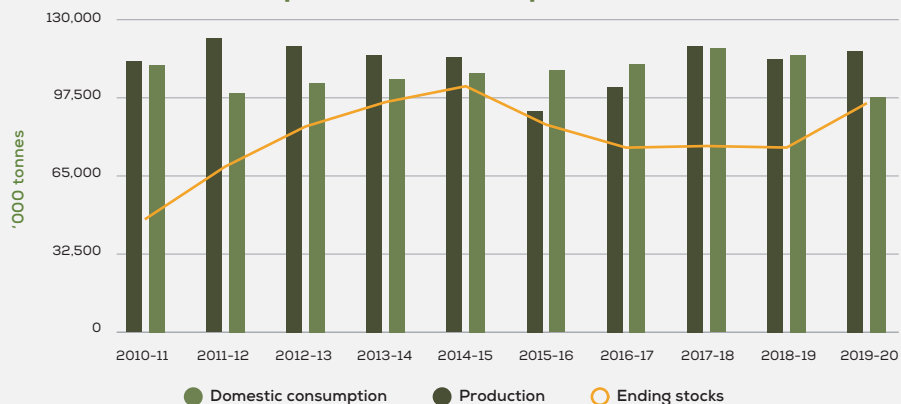
Estimates were that global production dramatically outstripped consumption by almost 19 million bales <sup>v</sup>, the second largest supply demand gap on record <sup>138</sup>. This is attributed a build-up of inventories as spinning mills reduced output with the emergence of the COVID-19 pandemic <sup>8</sup>.

Cotton yields

 **9.9** bales per ha

⬆️ **59% YEAR ON YEAR**

## Global production consumption & stocks



Source: USDA (2020)

## Trade

China remained the major export location, commanding 63% of national exports at a value of \$611 million. Australia's exports of cotton to China benefitted from the recent US-China trade wars, with strong export demand despite the much smaller crop<sup>94</sup>.

The recent trend has seen Vietnam and Bangladesh picking up a larger share of national cotton exports over the past four years with exports averaging 15% and 11% respectively over this period<sup>94</sup>.



## Improving cotton nitrogen use efficiency

Cotton harvesting was underway at the Australian Cotton Research Institute (ACRI), Narrabri in June 2020. DPI researchers are in the final year of a sub-project of the More Profit from Nitrogen cotton research project, investigating management strategies to improving cotton nitrogen use efficiency. This research is supported by funding from the Australian Government Department of Agriculture, Water and the Environment as a part of its Rural R&D for Profit program, Cotton Research and Development Corporation (CRDC) and NSW DPI.



CROPPING

# Wheat

Wheat production rose marginally in 2019-20 with the bulk of production originating from southern areas of the state. Wheat prices remained strong, as domestic supply continued to languish.

Output \$801M est.

Up 7% yoy.

## Production

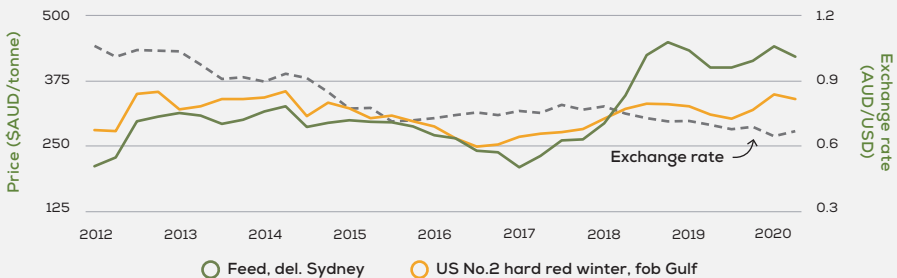
Production was up slightly at 13% in 2019-20 on the previous year to 2.09 million tonnes, although this was still down significantly on the moving 10-year average of 6.49 million tonnes <sup>10</sup>. The drought conditions took a toll on wheat production with a general absence of reasonable planting moisture and limited follow up rain in most of the cropping belt. Yields were estimated at 1.1 tonnes/ha, compared to the millennium drought where yields dropped to as low as 0.62 tonnes/ha <sup>10</sup>.

## Price

Elevated prices were a combination of stronger global wheat prices and lower exchange rates, however overwhelmingly reduced domestic supply was the major contributor.

The recent high prices also posed the likelihood that domestic prices will converge to parity with global wheat prices in 2020-21, as the prospects local supply constraints begin to dissipate as NSW gets the closer to the next harvest.

### Wheat prices & exchange rates



Sources: ABARES (2020), RBA (2020)

Primary Industries in NSW





## Macroeconomic Conditions

As has been the case since 2013, production is expected to balance or outstrip consumption leading to a buildup in global closing stocks annually <sup>138</sup>.

COVID-19 has seen restrictions placed of exports of wheat from the world's largest wheat production region, the Black Sea, on the grounds of national food security.

Russia placed an export limit of 7 million tonnes for the June Quarter 2020, while Ukraine placed a season total export cap of 20.2 million tonnes up until the end of June 2020 <sup>127</sup>.

## Trade

Due to the poor season in 2019-20, exports of wheat from NSW were limited to 104 thousand tonnes, down 93% on the moving 5-year average <sup>94</sup>. The poor season also meant that grain (including wheat) was moved from interstate locations such as Victoria and South Australia to support intensive livestock, supplementary feeding and feedlot operations.



# 104,000

tonnes of wheat  
exported in 2019-20



**93% YEAR ON YEAR**



## Rural Resilience Program

The DPI Rural Resilience team work with primary producers across regional and remote NSW to build personal and business resilience, which is an essential tool to withstand the challenges of rural life and farm based businesses.

The Rural Resilience program treats resilience as a process rather than an outcome noting the importance of building and maintaining personal resilience, especially for people who run businesses, are part of a family, are service providers, or local leaders in drought impacted areas.



C R O P P I N G

# Barley



Barley producers felt compounding impacts of successive years of drought on barley production, and the Chinese decision to impose 80.5% duties to Australian barley exports in 2019-20.

💰 Output \$198M est.

⬇️ Down 39% yoy.



## Production

Dry conditions had a big impact on barley production with a decline of 23% year on year to 696 thousand tonnes, the lowest level in 17 years. The decline was a combination of reduced acres and lower yields which averaged 1.2 tonnes/ha, at odds with other major winter crops where yields increased marginally. This is attributed to the incremental dry conditions that built up over successive seasons, depleting soil moisture and leaving farmers with little inclination to risk failed crops <sup>10</sup>.

## Price

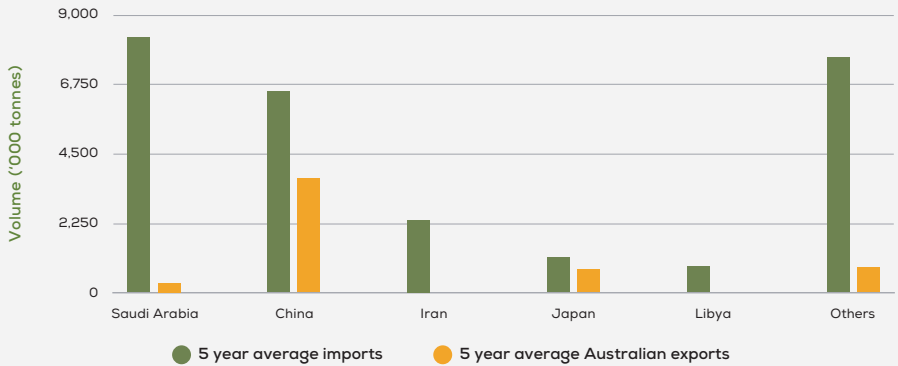
Domestic barley prices detached from global feed grain prices in 2018 and remained elevated until recently, with drought related feed supply shortages in NSW and Queensland being the main domestic driver of barley prices.

China's recent decision to impose a combined levy of 80.5% on Australian barley imports coincided with the prospects of a large 2020-21 crop. Barley prices ultimately closed the year down approximately 32% on the previous year's closing prices <sup>72</sup>.

## Macroeconomic Conditions

China's barley demand will need to at least be partially met from alternate markets, creating opportunities for Australian exporters to potentially fill any demand displacement resulting from the decision, albeit possibly at a lower price point in 2020-21.

## Australian exports vs major importers



Source: USDA (2020d), GTA (2020)

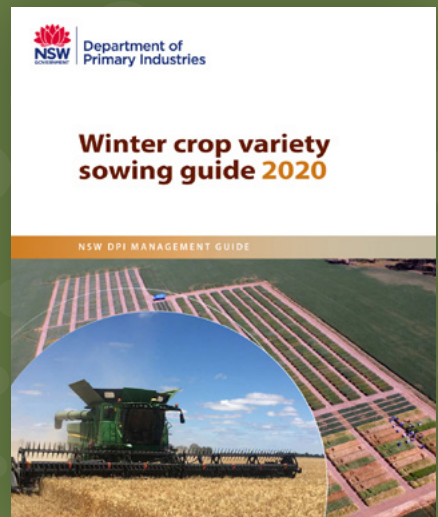
## Trade <sup>89</sup>

Australian exports of barley were estimated at 2.9 million tonnes in 2019-20 which represents a 22% decline year-on-year <sup>84</sup>. The majority of these exports are traditionally derived from Western Australia and South Australia, and even more so in 2019-20 due to drought induced supply issues.

NSW remained a net importer of grain for livestock feeding and malting, however in comparison to the previous year, grain (including barley) predominantly came from Victoria and South Australia as opposed to Western Australia <sup>82</sup>.

## Winter crop variety sowing guide 2020

Grain growers and agronomists can make better cropping decisions and increase profitability with the specialist information in the Winter crop variety sowing guide 2020 edition published by the DPI. This annual guide has new variety characteristics, grain quality and technical information, based on the latest research and development results from both DPI and industry programs. The guide will assist growers with informed planning, variety selection and management decisions that are right for their farming systems.





C R O P P I N G

# Other Coarse Grains



Coarse grain production fell from already low levels to the smallest crop on record in 2019-20, leading to a supply and demand gap that continued to support strong prices.

Output \$127M est.

Down 35% yoy.

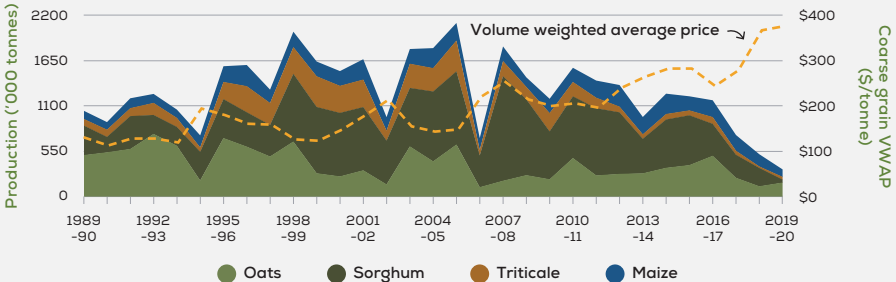
## Production <sup>ac</sup>

Triticale and oat production increased by 75% and 35% in 2019-20 respectively, albeit this was off a very low base. This was offset by summer crop coarse grains of sorghum and maize, where production fell by 84% and 39% year-on-year respectively. Winter coarse grain production was supported by the marginally improved winter cropping conditions in the southern region relative to northern NSW where sorghum is predominantly grown <sup>10</sup>.

## Price <sup>ac</sup>

As coarse grain supply continued to shrink in NSW, prices have progressively increased, accelerating since 2017-18 as feed grains came into short supply. Maize, oats and sorghum hovered near record prices in excess of \$400/t at times through 2019-20, eclipsed only by prices the year prior <sup>72</sup>.

### Coarse grain production & average price



Sources: ABARES (2020); ABARES (2020b)



## Macroeconomic Conditions <sup>ac</sup>

Global coarse grain production (including barley) was estimated to have increased marginally in 2019-20 to 1.41 billion tonnes, second only to 2016-17 when production hit 1.42 billion tonnes <sup>138</sup>.

The majority of global coarse grain production was used for livestock feed purposes, and while COVID-19 impacted demand for meat products, livestock herds are expected to be maintained in anticipation of recovery. In addition, the African Swine Fever outbreak in China is expected to have reached its peak, meaning feed grain demand from China is likely to now stabilise <sup>8</sup>.

## Trade <sup>ac</sup>

NSW coarse grain exports fell 49% in 2019-20 to \$5.2 million. Exports are typically dominated by sorghum exports to China however, the past year saw China fall from the largest to the fifth largest export market, owing to a limited exportable surplus of sorghum. Year-on-year exports of the other coarse grains remained relatively stable, albeit in very small quantities <sup>94</sup>.



## Building capacity of young crop researchers

The Tamworth Agricultural Institute is hosting three PhD scholarship candidates as part of the Grains Agronomy Pathology Partnership's (GAPP) capacity building and skills development program in 2020. The GAPP is a long-term partnership between DPI and the Grains Research Development Corporation (GRDC), focused on building research capacity in projects of importance to northern region growers. DPI proudly invests in young researchers to develop skills to support innovative research which can drive transformational changes to the industry.



C R O P P I N G

# Oilseeds



Oilseed production had mixed fortunes in 2019-20 with cottonseed production down sharply compared to canola. Despite oil and biodiesel prices slumping, Chinese demand supported domestic canola prices.

💰 Output \$143M est.

⬇️ Down 9% yoy.

## Production

Oilseed production fell by 47% in 2019-20 to 386 thousand tonnes in total, the lowest levels since 2007-08 when 264 thousand tonnes were produced. Cotton seed production plummeted by around 70% owing to a lack of irrigation allocations.

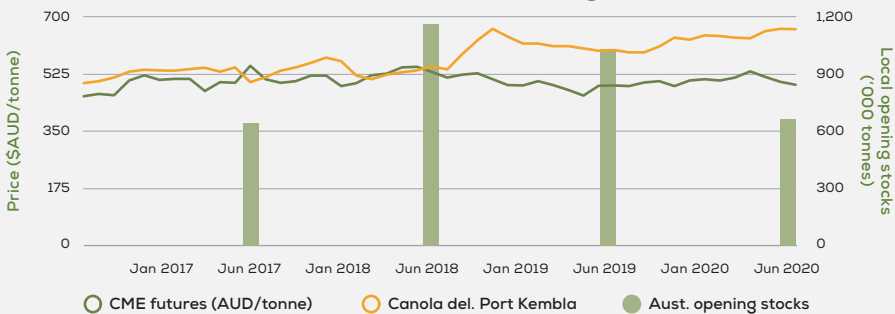
Canola production fared better than expected, with the crop down by a relatively modest 14% to 225 thousand tonnes aided by stronger

yields than a year prior and a modest regional seasonal improvement in southern cropping regions <sup>10</sup>.

## Price

Canola seed prices were well supported domestically over 2019-20, with prices ending the year up by approximately 11% on the same time a year prior and sitting at \$664/t delivered to Port Kembla <sup>72</sup>.

### Canola price & canola opening stocks

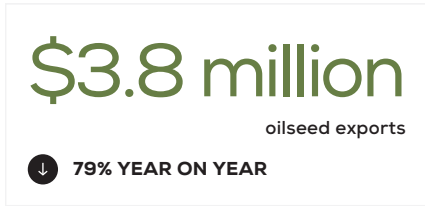


Sources: DPI (2020f); INVESTING (2020b); RBA (2020); USDA (2020d)

# Macroeconomic Conditions

Demand for crude oil and biodiesel dropped significantly in 2019-20 during the height of government-imposed lockdown measures. This led to some pressure on canola seed prices, however they have since begun to somewhat recover as measures have progressively eased <sup>92</sup>.

Australian canola prices have benefitted from a recent trade dispute where China imposed bans on Canadian Canola seed exports from the two largest Canadian export firms, Richardson International and Viterra Inc in March 2019 <sup>93</sup>. Canada is Australia's largest canola export competitor which has led to a divergence in prices.



## Trade

Australia's canola crush was steady at an estimated 800 thousand tonnes, with the majority of this predominantly crushed on the Australian East Coast <sup>138</sup>. The value of NSW oilseed exports fell by 79% in 2019-20 to just \$3.8 million and to levels not seen since the peak of the millennium drought in 2007-08. Nationally oilseed exports grew by 18% in value terms driven by exports from Victoria, demonstrating that NSW production levels were finely balanced with domestic crush requirements <sup>94</sup>.

## Hayman soybean variety is a winner

Another successful harvest of the Hayman soybean variety was completed in 2020, yielding large, high-protein grain destined for tofu and other soybean related product markets in Australia and overseas. The new Hayman variety has been tested at the Grafton DPI research station. DPI, in partnership with CSIRO and the Grains Research and Development Corporation (GRDC), develops new elite soybean varieties for North Coast and Australian grain growers under the Australian Soybean Breeding Program.





C R O P P I N G

# Sugarcane

Sugarcane production dropped to the lowest level in 5 years in 2019-20, while large carryover stocks in India and COVID-19 impacted on sugar prices.

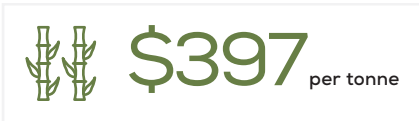
💰 Output \$65M est.

⬇️ Down 11% yoy.

## Production

Sugarcane growers were susceptible to the ongoing dry conditions in 2019-20, with Southern Queensland and Northern NSW production down 23% and 20% respectively. The area planted accounted for approximately half the decline, with the other half attributed to lower yields which came in at 111.5 tonnes/ha of cane in NSW. Nevertheless, NSW still achieved yields 35% above national average yields <sup>41</sup>.

## Price



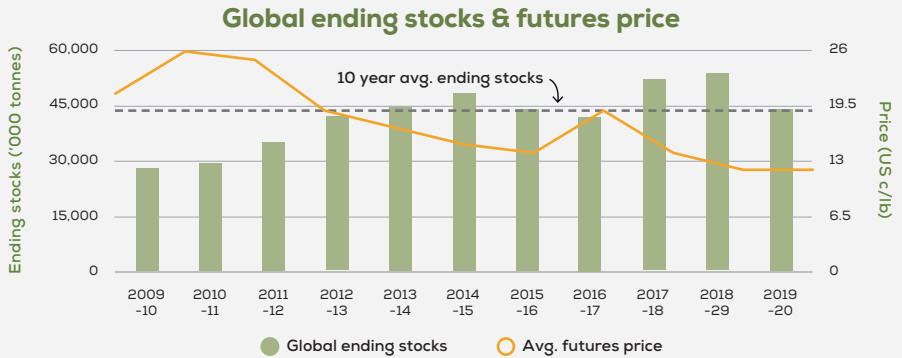
Local spot prices averaged an increase of 9% in 2019-20 however, they ended the year at \$397/t, down 40% from the most recent significant peak in October 2016 <sup>45</sup>. Sugar prices were hindered by global stock levels

which were starting to be drawn down, with prices responding over the second half of 2019 and early 2020. However, COVID-19 dented sugar prices once again as consumption slowed with strict lockdown restrictions in the food service sector <sup>9</sup>.

## Macroeconomic Conditions

Global stocks of sugar have been rising sharply over the past decade, led by domestic stocks in India, which accounted for 36% of global ending stocks as at June 2020 <sup>138</sup>. Some competitor producers attributed to the oversupply due to a range of complex factors including India's subsidy policy. India had begun drawing down on its inventories with an estimated 9% drop in stocks over 2019-20. However, fundamental demand issues and logistics problems as a result of COVID-19 slowed progress.





*Source: USDA (2020d), Quandl (2020)*

## Trade

Exports of sugar (solid form) from NSW increased by a substantial 42.1% in 2019-20 however, when taking into account the major production regions of Queensland, sugar exports were up a more modest 14.7% nationally year-on-year. NSW exports were valued at \$2.74 million in 2019-20 with a further \$873 thousand in the further refined molasses exports<sup>94</sup>.



## Young Farmers Business Program

The Young Farmer Business Program is creating opportunities for young farmers and fishers to enter or expand their existing businesses by helping them improve their business skills. The Young Farmer Business Program has been funded by the NSW Government through the DPI to deliver a multifaceted approach to help young farmers and fishers.

The program is providing access to new business ideas, tools, products and services relevant to young farmers and fishers.



C R O P P I N G

# Pulses



Pulse production was influenced by variations in regional drought intensity. Limited supplies received price support from Pakistan for chickpeas and the feed grain sector for lupins.

💰 Output \$57M est.

⬇️ Down 20% yoy.

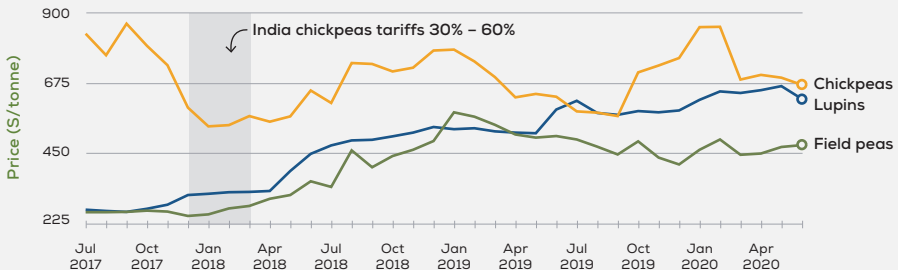
## Production

Despite a tough season pulse crop production increased by 62% to 123 thousand tonnes in 2019-20 on the back of lower planted hectares more than offset by higher yields. Chickpea production slumped to a 25-year low of 20 thousand tonnes due to the disproportional intensity of the drought in Northern NSW. Field peas and lupins had combined production of 73 thousand tonnes and 59% of total pulse production, reflecting relative seasonal improvement in southern regions of NSW <sup>10</sup>.

## Price

Lupin prices in particular were buoyed by the stock feed market in 2019-20, with farmers looking for either high energy and/or good protein levels. Chickpea prices also demonstrated resilience especially in light of the tariffs imposed by India in 2017 and 2018 which remain at 60% for Desi chickpeas <sup>20</sup>.

### Pulse prices delivered to June



Sources: NSW DPI (2020)



## Macroeconomic Conditions

A recent run of average or above average monsoon season rainfall meant India was able to support domestic demand for pulse crops internally, and in particular for chickpeas. Pleasingly for Australian producers, demand for chickpeas and other pulse crops surfaced from Bangladesh, Pakistan and the United Arab Emirates. Pakistan's chickpea production was impacted by a range of seasonal factors which led to variations in quality, with Australian chickpeas used to blend with local product for the Dhal market <sup>92</sup>.

## Trade

Exports of pulse crops from NSW declined by a modest 7% to \$52.9 million in 2019-20, although understandably down on the peak export season of 2016-17 when \$531.7 million of pulses were exported. Approximately 97% of the 2019-20 exports were chickpeas, with stronger pricing over the spring and summer months enticing old crop out of storage to supplement the limited new crop supply <sup>94</sup>.



97%

of all pulse exports are chickpeas

## Scholarships cultivating research leaders

Each year the DPI calls for the next generation of crop researchers to apply for Farrer Memorial Travelling Scholarships to support and encourage them to expand their studies and gain international networks.

These scholarships assist postgraduate students enrolled for a PhD in any aspect of field crop research and allow these future leaders to research best global practices to understand how other countries are managing challenges in primary industries.





C R O P P I N G

# Rice

Dwindling water allocations led to the smallest two consecutive rice crops on record in 2018-19 and 2019-20. Record prices yields were some positives in the small season.

💰 Output \$34M est.

⬆️ Up 7% yoy.

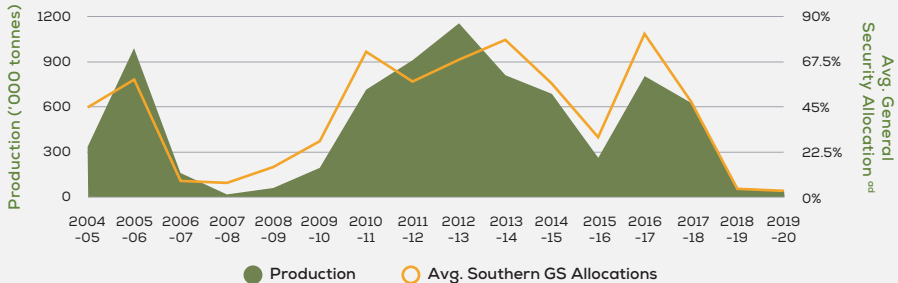
## Production

Rice production declined by 26% to just 45 thousand tonnes in 2019-20, the lowest level since the 2007-08 season. On a more positive tone, producers managed a significant improvement in yield which increased by 17% to 10.6 tonnes/ha, indicating the added incentive to maximise grower returns in a water constrained season <sup>10</sup>.

## Price

Historically low production levels meant that rice merchants and the largest Australian rice processor Sunrice, needed to offer very high prices in order to incentivize production with the limited allocations on offer. As a result, prices broke all-time records at an estimated average of \$750/t and in line with fixed price hectare contracts for Reiziq variety. However, some producers were paid as much as \$1,500/t for organic rice varieties on fixed price hectare contracts <sup>8 131</sup>.

### Water allocations & rice production



Sources: ABARES (2020f); DPIE (2020d)



## Macroeconomic Conditions

In contrast to the Australian rice industry, global rice production, use and stocks were all estimated to have reached record levels in 2019-20, following a familiar trend since 2004-05 after a brief fall in global production. Although following similar trajectories, global production outstripped consumption for the past fifteen years leading to current ending stocks of 181.6 million tonnes <sup>138</sup>. Australia's rice industry is centered around production of Japonica rice varieties. Global trade in Japonica varieties only account for an estimated 5-6%, a more niche segment of global rice trade <sup>139</sup>.

## Trade

As a result of declining production and dwindling domestic stocks of rice, national rice exports slumped by 51% year-on-year to \$135 million. In volume terms the decline was greater, although this was offset by a 21% rise in export prices to \$1,622/t and in line with increased farm gate prices offered to growers last season <sup>94</sup>.

**\$135 million**

rice exports



**51% YEAR ON YEAR**



## Yanco Agricultural Institute hosts the 2020 Rice Industry Field Day

On 5 March 2020 the Yanco Agricultural Institute hosted the 2020 Rice Industry Field Day. This one-day event, Research now for tomorrow's rice, was a collaboration between DPI, Ricegrowers' Association of Australia, SunRice, AgriFutures Australia and Rice Extension. DPI Staff showcased exclusive behind-the-scenes research through informative sessions to over 150 rice growers, industry representatives and advisers including sessions on agronomy, nutrition, rice breeding and quality programs.



## OVERVIEW

# Livestock

2019–20 was a year of mixed fortunes. For the first half of the year the cumulative impacts of low water availability and stock feed deficits continued to challenge the resilience of

farm businesses. Autumn delivered a return to more favourable conditions, returning a feeling of optimism for many in the livestock sector.

## Livestock and Livestock Products

The value of livestock and livestock product industries was estimated to have increased 9% year-on-year, largely driven by record farmgate prices for beef, sheepmeat, goats, pork and milk. The output for livestock (meat) was \$5,225 million, up 12% year-on-year, with beef cattle the main contributor by value. Livestock products output (milk, eggs and wool) was \$2,051 million, steady year-on-year, with the main contributor by value being wool.

A lack of supply was the main limiting factor for almost every livestock sector and will likely remain an ongoing challenge, particularly for the beef and sheepmeat and pork industries. Overall demand for NSW meat protein remained strong, particularly in Asia, led by the lower currency and a protein shortage created by African Swine Fever. Cattle and sheep prices reaching historic highs. Competition for the significantly

reduced local milk pool also saw domestic farmgate milk prices reach record highs. Wool markets struggled due to weakened demand as a result of the COVID-19 outbreak.

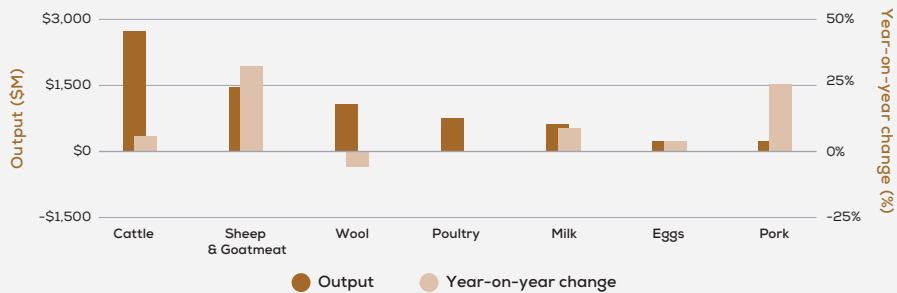
## Outlook

The short-term outlook will largely be driven by the ongoing global response to the COVID-19 pandemic and a contraction of the global economy. Overall, the demand for food staples is less likely to be impacted. However, demand for products such as wool is more closely correlated to income.

Drought recovery will also be important. Farmgate prices will remain elevated for most industries until production recovers. There is a growing discrepancy between domestic farmgate prices and global prices, however the ongoing influence of African Swine Fever on the protein industry will support export demand in the short-medium term.



## Livestock & Livestock Products Estimated Output 2019-20



Source: GTA (2020)

## Keeping NSW parthenium-free

Parthenium weed invades pastures and crops and poses a significant biosecurity risk to NSW. Parthenium is widespread in Queensland covering an area of 18 million hectares in central areas of the state, causing millions of dollars in damage to livestock and cropping industries.

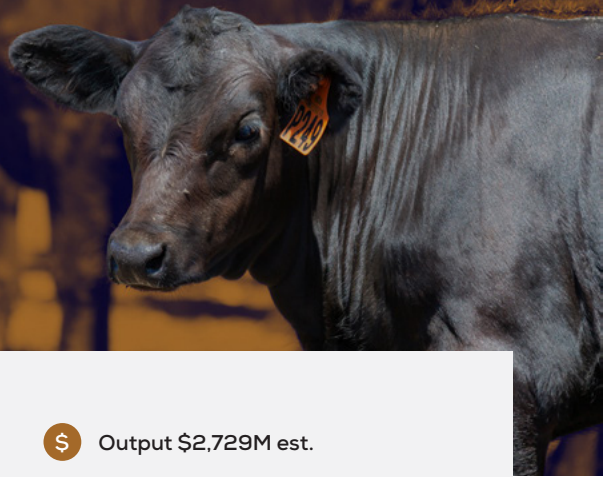
To prevent this occurring in NSW, DPI encourages anyone who suspects they have seen parthenium weed to note the location and call the NSW DPI Biosecurity Helpline, 1800 680 244.





## LIVESTOCK

# Beef Cattle



The value of the industry increased by an estimated 6% to \$2,729 million, with decreased supply offset by an improvement in prices.

💰 Output \$2,729M est.

⬆️ Up 6% yoy.

## Production

With dry conditions persisting at the start of the year, slaughter remained elevated. By December 2019 the female slaughter rate was up to 55% and total slaughter was up 5% on the previous year's already high levels as producers sold core breeding stock to manage the dry conditions. However, widespread rain from February 2020 provided producers with some relief and monthly slaughter levels dropped significantly peaking at -29% year on year in May 2020 <sup>115</sup>. As a result, production dropped -4% during the year <sup>115</sup>.



prices rose sharply especially for restocker type cattle. The restocker steer to heavy steer premium increased from one of the largest discounts on to the largest premium on record in March 2020 <sup>115</sup>. By the end of the year farmgate prices for feeder steers in Australia were more expensive than anywhere other than the US.

## Price

Overall prices rose by an estimated 10% during the year. Prices declined slightly over the first six months of the year however remained reasonably resilient given continued severe drought conditions. Finished stock were in short supply and attracted a premium. Widespread rain from February 2020 changed the market dynamics and all



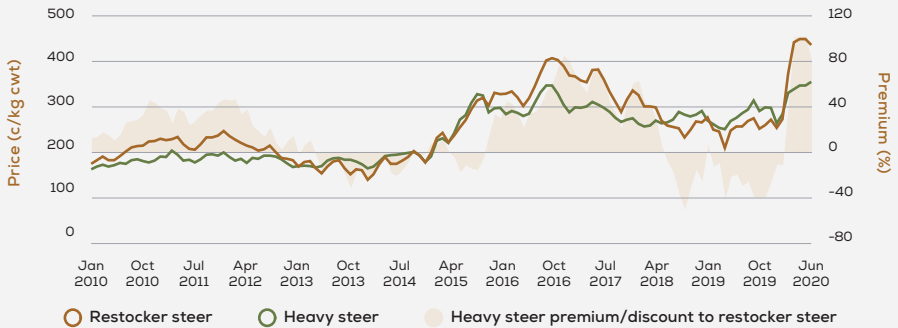
# \$2.1 billion

NSW beef exports

⬆️ 17% YEAR ON YEAR



## Restocker steer vs heavy steer



Source: MLA (2020a)

## Trade

Australian and NSW exports remained very strong during 2019-20. The value of NSW exports increased 17% to \$2.1 billion. Continued robust international competition supported prices and NSW volumes increased 5% to 229,000 tonnes<sup>94</sup>. China was once again the main driver behind export growth. Since 2015 the value of beef exports from NSW to China have grown at compound annual

growth rate of 33%<sup>94</sup> per annum. China has been the largest destination for Australian and NSW beef since 2019. Whilst a global protein shortage created by African Swine Fever was undoubtedly a major driver of the strong Chinese demand, higher value chilled beef continued to make up a higher proportion of total exports growing 137% by value during 2019-20 to reach 17% of the total exported.



## Keeping NSW cattle tick-free

The NSW DPI Cattle Tick Program works to keep NSW tick-free through movement controls on animals from tick infested areas, implementing strategies to eradicate outbreaks of ticks and tick fever and updating industry on developments in cattle tick control.

Cattle tick is the most serious external parasite of cattle in Australia, with an estimated annual cost to the industry of more than \$160 million. Cattle tick is a notifiable disease under the NSW Biosecurity Regulation 2015.



LIVESTOCK

# Wool

Shorn wool production declined and the impacts of COVID-19 on global demand resulted in prices falling to 5-year lows.

💰 Output \$1,098M est.

⬇️ Down 6% yoy.

## Production

Prolonged drought conditions impacted flock numbers and shorn wool production with high prices providing an incentive for producers to send a greater proportion of their flock to slaughter. Per head wool yield increased 4% nationally to 4.3kg greasy <sup>44</sup>.

## Macroeconomic conditions

Global fibre and textile manufacturing hubs faced a double impact from the outbreak of COVID-19. Lockdowns saw processing operations shutdown which interrupted the supply of textiles. The global recessionary outlook also saw consumers turning away from discretionary and luxury products, such as wool, in favour of cheaper fibres <sup>35</sup>. Global demand for wool deteriorated and order cancellations and lockdowns saw major interruptions within the retail sector.



**94.3 kg greasy**  
estimated shorn wool production

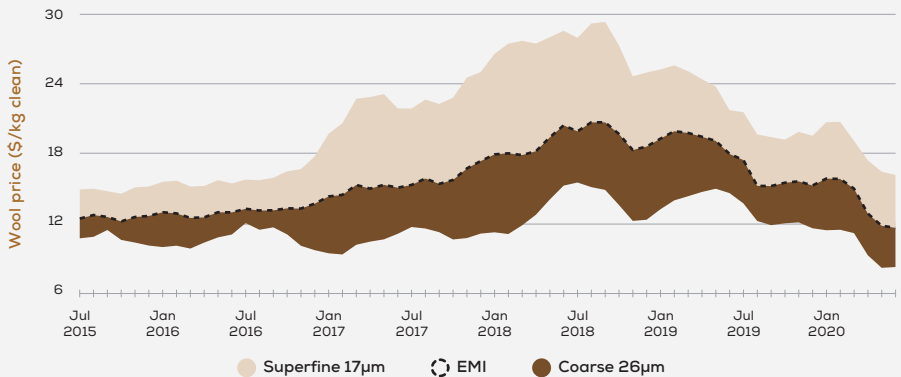
⬇️ **5% SHORN WOOL PRODUCTION** <sup>44</sup>

## Price

The benchmark EMI fell 605c or 35% on year-ago closing levels <sup>46</sup>. Steep falls were felt across all micron categories with the fall in price least at the superfine end, where the AWEX average 16.5µm price guide was down by 21.8% year-on-year. The falls progressively increased to 40.9% at 21µm <sup>46</sup>.

Key wool test parameters reflected the tough seasonal conditions, with average clean yield remaining low at 60.3% whilst mean fibre diameter remained relatively steady at 20.1µm. <sup>47</sup>

## Wool price relative to EMI



Source: AWI (2020b)

## Trade

The disruption to milling and textile production following the COVID-19 outbreak resulted a fall in global consumption of wool textiles. As a result, exports decreased to a total of 50,729 tonnes, down 15% compared to the previous year<sup>94</sup>. In value terms exports were worth \$527 million, down 18% on the 10-year average<sup>94</sup>.

The restrictions on trade also affected the number of available buyers and reduced competition. Lockdowns resulted in cancelled orders often leaving China as the only major purchaser and in a strong position to dictate price<sup>32</sup>. China accounted for the bulk of exports and largely maintained its market share of 85% by volume and 83% by value<sup>94</sup>.

## Key research into Merino genetics

The Trangie Agricultural Research Centre has a long history of research in sheep genetics and has contributed substantially to the understanding of the genetic characteristics of Merino sheep.

Some 80% of Merino rams sold in NSW, and 60% nationally, are now derived from studs that use selection indexes in their breeding programs. Long term research programs at Trangie have made a major contribution to the development of these indexes.





L I V E S T O C K

# Sheepmeat



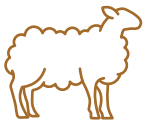
Sheepmeat producers benefitted from the combined effects of low supply, strong export demand and sustained high prices.

💰 Output \$1,458M est.

⬆️ Up 33% yoy.

## Production

Total meat production increased, with an increase in average sheep and lamb carcase weights offsetting lower slaughter rates. A positive result for flock recovery, but also an indicator of depleted supply. The tough seasonal challenges faced during 2018-19 resulted in joining and marking rates falling 15% and 18% respectively, limiting the available lamb supply heading into 2019-20 <sup>24</sup>.



**SHEEPMEAT PRODUCTION**

**193,364** tonnes cwt

⬆️ **3% YEAR ON YEAR** <sup>115</sup>

## Trade

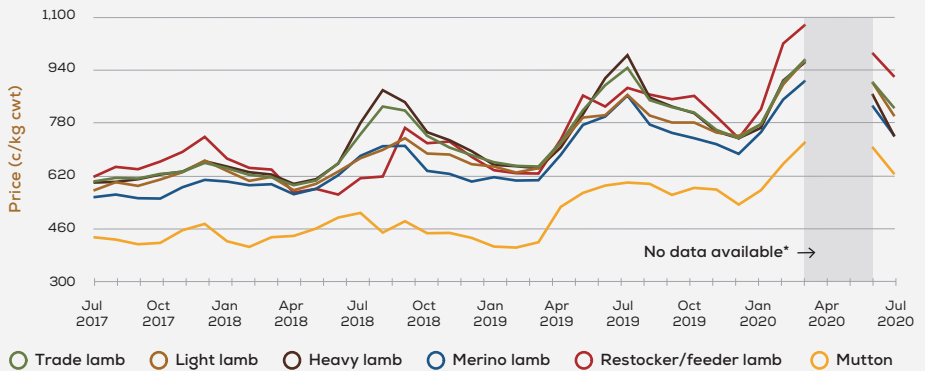
Global markets reflected strong demand despite the economic uncertainty surrounding the COVID-19 outbreak. Supply limitations out of Australia's closest competitor New Zealand, a slowing of supplies from other market competitors, and the soft \$AUD, helped support a 6% increase in export volume and reach a record value of over \$1 billion for the first time <sup>94</sup>. China remained the largest and most valuable export market, increasing in value by a significant 37% and 15% by volume year-on-year <sup>94</sup> with the protein gap created by African Swine Fever in the Chinese supply chain one of the main drivers of demand <sup>16</sup>. Exports to China were largely comprised of lower-value, bone-in, frozen cuts, where the majority of export growth has occurred in recent years. Exports to China of higher-value fresh and frozen cuts are growing however still only comprise approximately 0.3% of the market by volume <sup>94</sup>. In contrast, the USA takes a much higher proportion of bone-in and boneless chilled cuts accounting for 57% of exports by volume in 2019-20 <sup>94</sup>.

## Price

Limited domestic supply, strong international demand and competition saw prices remain at historically high levels with all stock categories experiencing significant growth. Strong competition between processors and restockers placed significant upward pressure on prices with the robust prices acting as an attractive counter to strong restocking

intentions after the improvement in seasonal conditions in early 2020. Mutton prices were the standout, with the NSW Mutton Indicator up 29% year-on-year, 60% above the 10-year average and reaching a record high in June 2020 <sup>115</sup>. Lamb prices were also well supported with the NSW Trade lamb Indicator up 14% to average 842c/kg cwt <sup>115</sup>.

### Saleyard sheep & lamb indicators



\*MLA suspended updates to all sheep and cattle indicators in April and May 2020 in response to the outbreak of COVID-19

Source: MLA (2020a)



## Research improving the sheepmeat industry

DPI Cowra Agricultural Research and Advisory Station has been recognised as the Centre for Red Meat and Sheep Development, with a long and impressive research record in the improvement of the Australian sheepmeat industry. Recent activities have focussed on developing improvements in genetics, meat quality, nutrition, reproduction, lamb survival and market development. Plant Breeders throughout Australia have used this site for over 100 years to undertake the detailed assessment of new selections and ultimately their inclusion in on-site national variety trials.



L I V E S T O C K

# Poultry



Per capita consumption of poultry in Australia fell during the year by 4.3% <sup>28</sup>. This was the largest decline on record as COVID-19 reduced restaurant and food service demand.

💰 Output \$782M est.

➖ Steady yoy.

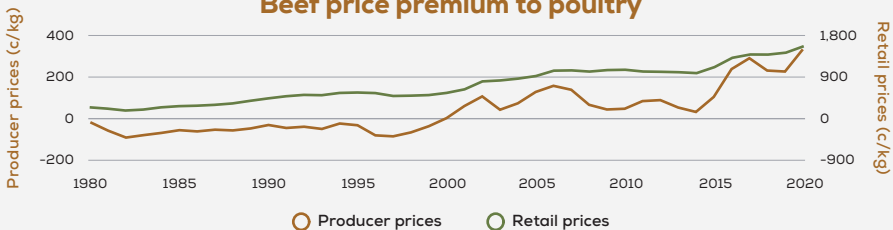
## Production

NSW chicken production was down 2.5% in 2019-20. COVID-19 had a large impact on demand for poultry meat in the last quarter of the year. Whilst sales through supermarkets surged as consumers stockpiled staples, sales through food service and restaurants declined. Approximately 38% of poultry sales are through supermarkets <sup>101</sup>. Approximately 35% of sales are to food service and restaurants, one of the sectors most impacted by COVID-19 <sup>101</sup>.

## Price

Producer prices reflects both the price received by contract growers and other costs (including feed costs) incurred in rearing poultry to the processing stage. Producer prices were estimated to have risen by 2.3% <sup>10</sup> and retail prices were up 2.4% <sup>115</sup>. Discounting to clear excess inventory during the last quarter of the year as a result of COVID-19 tempered the annual increase. Poultry meat continued to improve its price competitiveness relative to red meats with beef's premium to poultry for both producer prices and retail prices reaching new highs during the year.

### Beef price premium to poultry



Source: MLA (2020a)



## Outlook

COVID-19 has had a significant impact on the poultry industry due to the high proportion of sales to food service. High feed and water costs were already increasing overall costs for the industry. The COVID-19 induced oversupply limited price rises. This has created challenges for both farmers and processors and there has been some industry restructuring as a result. Nevertheless, poultry meat retains a significant price advantage relative to other protein sources. Reduced supply of beef and lamb is expected to result in this price advantage continuing to increase.

## Trade

Australia exports a small amount of poultry meat. NSW exports increased 9.4% during 2019-20 to \$24.2 million <sup>94</sup>. Towards the end of the year a relaxing of import requirements created an opportunity for increased exports to Singapore.

### POULTRY SALES



## DPI providing quality assured laboratory testing services

The DPI provide quality assured laboratory testing services in the fields of veterinary pathology, analytical chemistry and plant health.

DPI laboratory services undertake diagnostic testing to support surveillance, accreditation, export, diagnostic and emergency activities for animal and plant diseases in NSW and interstate. NSW DPI laboratory services is a network of NATA accredited laboratories across the state with laboratory facilities at Wollongbar, Menangle, Wagga Wagga and Orange.





LIVESTOCK

# Milk

Difficult seasonal conditions and cost challenges created a tough operating environment for dairy farmers. Farmgate prices reached record highs in response to the reduction in supply.

Output \$647M est.

Up 9% yoy.

## Production

# 1,043 ML

NSW milk production <sup>54</sup>

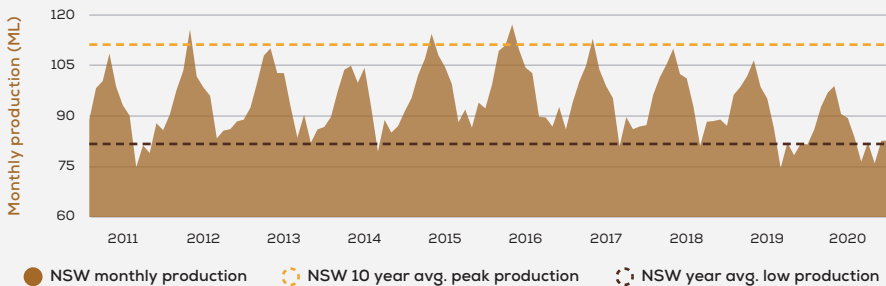
↓ 4% YEAR ON YEAR

The successive gradual drop in production over the last 3-years has been driven by a number of factors, mainly stemming from drought, such as smaller herd numbers, reduced

milk yields, and higher input costs including additional fodder and water.

The progressive annual reduction in the Eastern Australian milk pool over the last few years has resulted in drinking milk processors increasingly drawing on Northern Victorian milk supplies to supplement seasonal lows in milk availability in NSW and QLD. DPI estimates suggest that NSW processors are sourcing almost 30% of their raw milk requirements from outside the state (primarily Victoria).

## NSW monthly milk production



Source: Dairy Australia (2020a)



## Trade

Export volumes of fresh milk fell 8% year-on-year <sup>94</sup>. However, supply and demand were favourably balanced for price growth, with the value of fresh milk exports increasing significantly, up 29% year-on-year to \$23 million <sup>94</sup>. Demand continued to be supported by China, Hong Kong and Malaysia <sup>94</sup>.

## Price

Farmgate milk prices hit record levels due to drought-induced constraints on supply and a lower dollar.

**\$8.55** per kg MS

NSW average farmgate price <sup>56</sup>



**11% YEAR ON YEAR**

Despite the extra costs of transporting milk, processors became progressively more motivated to secure supply and, with global

dairy commodity prices relatively stable, competition between processors was the main factor driving the farmgate milk price in 2019-20. Whilst this resulted in an average increase to farmgate prices in the south of the state, traditional drinking milk suppliers were faced with increased competition from southern export focused suppliers.

## Macroeconomic Conditions

Due to the seasonal nature of milk price contracts and the highly competitive domestic milk supply environment, the COVID-19 outbreak did not impact NSW 2019-20 farmgate prices. Globally, fourth quarter dairy prices showed a clearly negative trend, but the full impact of the outbreak and its effects on dairy demand and global prices will not become fully apparent in the domestic market till at least 2020-21.



## Milking Edge Project

Milking Edge is an Australia dairy industry project delivered by the DPI, in collaboration with Dairy Australia and DeLaval, to support the dairy industry to consider, invest and operate Automatic Milking Systems successfully.

Milking Edge is built on a decade of successful research and the Project team has been working hard to develop training and extension programs for Automatic Milking Systems in Australia.



L I V E S T O C K

# Eggs



The NSW egg industry continued to face difficult operating conditions during the year. Grain prices remained elevated and producers also faced the additional challenge of an outbreak of salmonella.

💰 Output \$249M est.

↑ Up 4% yoy.

## Production

Production was estimated to have remained relatively flat during 2019-20. A combination of two successive yearly declines in the number of laying chicks hatched, continued drought conditions and outbreaks of salmonella led to a reduction in production at the start of the year. However, supported by strong demand, production recovered by the end of the year. Population growth, increased demand from COVID-19 and the continuing popularity of eggs as an alternative source of protein supported demand. Per capita consumption remained broadly flat at 246 eggs per capita <sup>43</sup>. There were some delays in resolving new animal welfare standards and the resulting uncertainty has limited new investment in cage production systems however, investment in new free range and barn systems continued. The demand spike experienced during the early stages of the COVID-19 shows that eggs remained a very important part of consumer's diet.

## Price

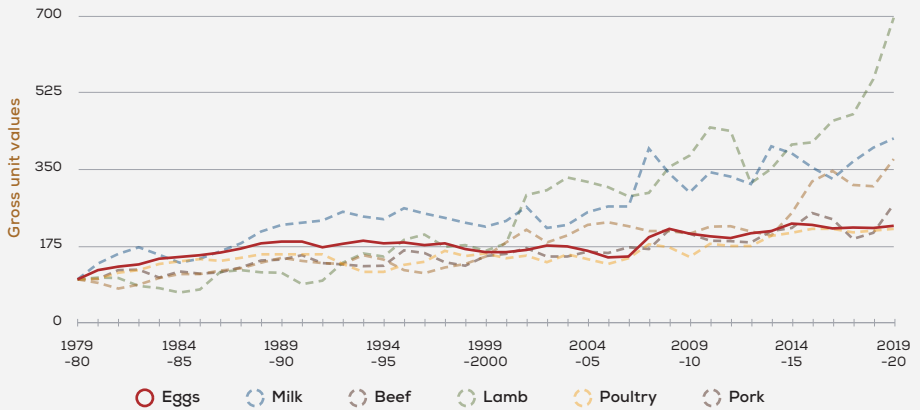
The continued switch by consumers from cage produced eggs to higher priced free range and barn produced eggs, some early supply shortages at the beginning of the year and increased demand due to COVID-19, pushed up average price by an estimated 5.4% <sup>22</sup>. Eggs are typically produced in an intensive farming system and, along with pork and chicken, have become an important and very affordable form of protein. Prices have risen at a significantly lower rate than traditional meats such as beef and lamb.



246 eggs

per capita

## Main protein sources in Australia



Source: ABARES (2020d)

## Trade

International trade in eggs is small and is usually influenced by outbreaks of avian influenza. There were no significant outbreaks of avian influenza during the year and production recovered in the Philippines, which had a severe outbreak several years

ago, reducing demand. NSW exports fell 81%<sup>94</sup> during 2019-20. Australian exports were not as badly impacted due to a significant increase in demand from Singapore, primarily supplied from Queensland.

## Be a Biosecurity Warrior

The Biosecurity Warrior delivers science-based content and messaging from the DPI educational charter to educate the community and help spread the message that biosecurity is a shared responsibility.

We all have a role to play in protecting our economy, environment and community from pests, diseases, weeds and contaminants.

DPI aims to turn every person in the state into a Biosecurity Warrior by ensuring they know how to identify biosecurity risks and take action to eliminate them.





## LIVESTOCK

# Pork

Pork prices increased while the industry continued to face elevated feed prices and substantial shifts in supply in the global pork market.

💰 Output \$245M est.

⬆️ Up 26% yoy.

## Production

Production decreased to 62,795 tonnes in 2019-20, from 842,000 pigs 2% down year-on-year, with an average carcass weight of 74.7kg <sup>39</sup>. The NSW sow herd was at 49,600 sows in 2019 decreasing 13% since 2017 with continued industry consolidation as the average farm herd size has increased <sup>24 98</sup>.

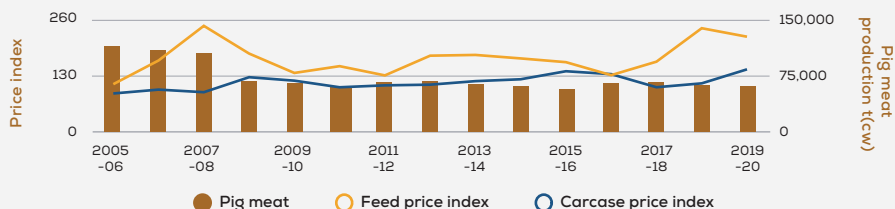
High feed costs due to the drought impacted producers. Typically, contractions in production have been especially marked after periods where high feed grain costs coincide with low pork prices.

## Price

Prices increased on 2018-19 levels, with the Eastern Australia benchmark for porkers up 26% to average 410 c/kg cwt and baconer price increasing 28% to average 377 c/kg cwt in 2019-20 <sup>148</sup>. African Swine Fever (ASF) in China and other key markets restricted production lifting global prices <sup>135</sup>.

The COVID-19 pandemic also influenced prices, with the Australian food services sector accounting for a quarter of Australian pork demand being directly impacted with reduced demand <sup>40</sup>.

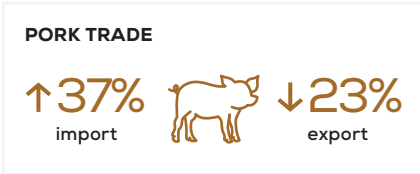
### Feed grain & pork price influences on pork production



Sources: ABS (2020i), ABARES (2019b), ABARES (2020a) and APL (2020d)

# Trade

The value of pork imports increased by 37% in 2019-20 reflecting high global pork prices with a 24% increase in the average unit value of imports. The United States, Denmark and Netherlands remained the major sources for imports by value <sup>94</sup>.



At the same time exports of pork fell 23% year-on-year to a value of \$23.3 million, with exports in volume terms down 31%. The major export markets include Singapore, Papua New Guinea, New Zealand and Hong Kong, with the Singapore market representing 32% by value and 23% by volume of exports <sup>94</sup>.

# Outlook

Australia remains vigilant to the potential incursion of ASF <sup>42</sup>. While China rebuilds its herd, their imports of pork remain elevated supporting global prices in 2020 <sup>120 137</sup>. However, the Covid-19 pandemic is causing supply chain shocks and impacting demand, as an intensive industry this can rapidly result in over supply <sup>119</sup>.

**NSW Department of Primary Industries**

**Do NOT feed swill to your pigs**

**SWILL FEEDING IS ILLEGAL IN AUSTRALIA**

This means that it is illegal to feed food waste containing meat or other ingredients to products to pigs.

Swill may contain serious exotic diseases that could devastate our livestock industries and stop our meat products being prepared for more consumers visit [www.dpi.nsw.gov.au/swill-feeding](http://www.dpi.nsw.gov.au/swill-feeding)

**NSW Department of Primary Industries Biosecurity Helpline on 1800 680 344**

**HOW DOES SWILL FEEDING CAUSE DISEASE IN PIGS?**

- Infected swill may cause piglets to increase
- Infected swill or meat scraps may be spread to other pigs by quarantine
- Feed scraps containing infected meat or swill may be fed to pigs
- Pigs become infected with a number of exotic diseases such as African Swine Fever

# Protecting pigs from exotic animal diseases

Good biosecurity means taking action to protect pigs from impacts of pests and diseases, including African Swine Fever (ASF).

Regardless of the size of an enterprise or hobby farm, all pig owners play a vital role in maintaining the health and welfare of livestock and providing quality pork products to consumers.

DPI offer resources containing important information about keeping pigs healthy and the biosecurity responsibilities for pig owners.



LIVESTOCK

# Goatmeat

Record-high prices, high export demand, and drought conditions underpinned a significant increase in industry value.

💰 Output \$10M est.

⬆️ Up 52% yoy.

## Production

Australian goat offtake was the lowest since 2007-08, at 1.2 million head <sup>115</sup>. Over the past 3-years NSW contributed nearly 70% of the goats that were processed in Australia. Australian production was 18,900 tonnes, of which NSW produced 974 tonnes, with most of the goats sourced from NSW going interstate for processing <sup>115</sup>.

NSW supplied 1.1 million goats to Australian processors in 2019, over 80% of national supply. Approximately half were sent to Victoria, while near equal numbers went to Queensland and South Australia.

Drought conditions in NSW have steadily reduced the rangeland goat population over the past 4-years. An aerial survey estimated the NSW herd at 3.9 million in 2019, up significantly over 2018 estimates <sup>106</sup>. The population peaked in recent years in 2016 prior to the onset of the drought.

## Trade

NSW goat exports were valued at \$1.3 million, with much of NSW goatmeat consumed domestically <sup>94</sup>. Of the 974 tonnes of goatmeat produced in NSW, only 52 tonnes were exported. Australian exports were valued at \$216 million, an increase of 22% over the previous year due to higher prices received in world markets <sup>94</sup>.

The United States remained the largest market, accounting for 70% of Australia's exports at \$147 million. Exports to the United States increased 18% over the previous year, however, were still lower than in 2015-16 and 2016-17 <sup>94</sup>. Taiwan, South Korea and Canada were other major destinations for exports.

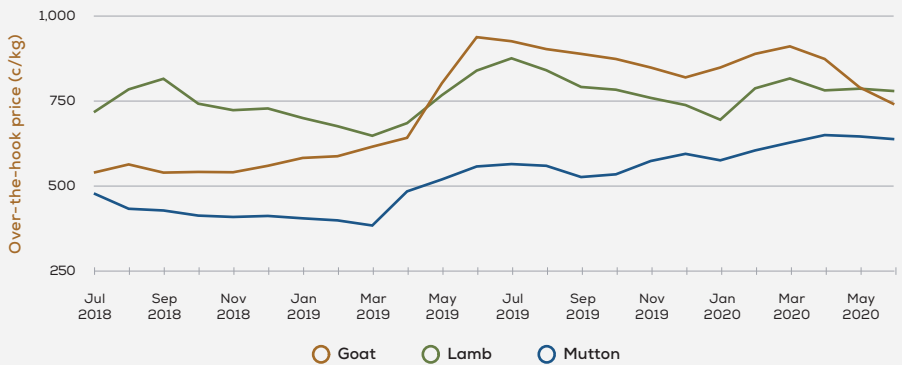
Live goat exports account for a small amount of total goat exports, with Australian exports valued at \$6.0 million, down from \$7.2 million in 2018-19 <sup>94</sup>. China, Malaysia and Philippines were the major destinations for Australian live goats. NSW and Australia did not import any goatmeat in 2019-20.

# Price

The average over the hook price for goats was 860 c/kg carcase weight in 2019-20, a record high for a yearly average and a 39% increase over the previous year <sup>115</sup>. The highest prices were received in early July 2019 at 940 c/kg, and the minimum prices for the year fell to 723 c/kg in late June 2020 <sup>115</sup>, still higher than average prices received for 2018-19.

Over the year goat prices outperformed mutton and lamb prices, only falling below lamb prices in May 2020 <sup>115</sup>. Strong demand from the United States, Taiwan and South Korea and drought-affected supply were factors behind the high over the hook prices.

## Goat prices overtook lamb in 2019-20



Source: MLA (2020a)

## Development of the goat industry in NSW

The DPI recognises the value of the goat industry in NSW and the importance of supporting its future development.

The Goat Industry Council of Australia (GICA), in collaboration and consultation with stakeholders, developed the Goatmeat and Livestock Industry Strategic Plan 2015-2020. DPI has reviewed the plan and, in line with DPI's Strategic Plan 2019-2023, has provided feedback and recommendations for the goat industry and relevant industry stakeholders in NSW.





L I V E S T O C K

# Honey and Beeswax

Apiculturists experienced very difficult conditions during the year due to widespread drought and bushfires.

Consequently, lower production and higher feed costs significantly impacted apiculturist's profitability.

🇺🇸 Output \$57M est.

⬇️ Down 12% yoy.



## Production and Price

Production was estimated to have fallen 30% offset by an estimated price increase of 18% <sup>129</sup>. Production was likely to have fallen by more than 50% in the latter half of the year after the bushfires over summer. The importance of bees to agriculture is much greater than the value of honey and beeswax produced. At least 35 crops rely on bees for pollination for their own production. Without honey bee pollination, crop yields would be significantly reduced.

## Trade

The value of Australian honey and beeswax exports increased 12% to \$59.5 million <sup>94</sup>. The largest market for Australian exports is China (30%). Australia is also a significant importer of honey and beeswax, primarily from New Zealand (65%) but also from China (23%). Imports decreased 10% to \$58 million. China is both a large buyer of Australian honey and supplier of cheaper honey. Australia has traditionally been net exporter of honey and beeswax however, a surge in cheaper imports from China from 2015 meant Australia became a net importer. For 2019-20 Australia again became a net exporter primarily due to a 51% increase in exports to China.

### HONEY AND BEESWAX

\$59.5  
million export



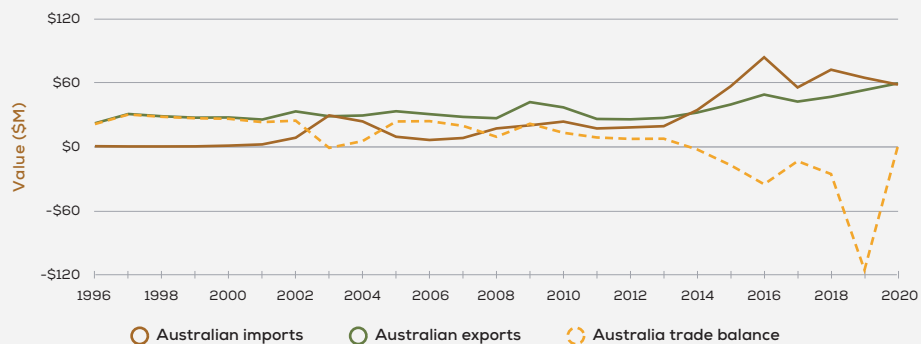
\$58  
million import

⬆️ 12%

⬇️ 10%



## Australia value of honey & beeswax exports/imports



Source: GTA (2020)

## Outlook

The compounding impact of drought and bushfire during 2019-20 severely impacted NSW apiarists. Even with rain, industry recovery will take longer than other livestock sectors as trees don't produce nectar and pollen immediately. Some trees will take many years to recover from burning and /or drought. Given the

financial strain on the industry, and the importance of honey bees and pollination services to other industries, in particular horticulture, the NSW Government offered a subsidy during the year to assist apiarist feed their hives and maintain the honey bee population. Nevertheless, production is expected to decline further next year.



## Reducing pesticide damage to honey bees

Pesticides are used in agriculture, horticulture and in field and forest situations to control a wide range of insect pests and weeds.

Practices to minimise damage to honey bees from pesticides are essential within programs developed by persons applying pesticides and by beekeepers operating apiaries in areas where pesticides are applied. The DPI Website offers information on the best practices for beekeepers to reduce bee poisoning and recognise symptoms of pesticide poisoning.



## OVERVIEW

# Hunting & Recreational Fishing

The estimated combined industry output of hunting and recreational fishing in 2019–20 was \$3,544 million. The recreational and charter fishing

industry was estimated at \$2,138 million, with \$1,406 million attributed to hunting and game management.

The hunting and recreational fishing sector incorporates hunting and game management activities, and recreational fishing, including charter fishing. They are included in the measure of the total annual value of NSW's primary industries this year as they are popular activities that contribute economic and social benefits to the Australian economy, particularly in regional areas.

Some businesses depend on the recreational fishing sector either wholly (the fishing tackle and bait industry and the fishing tour and charter industry) or for a large proportion of their income (the recreational boating industry and the tourism industry).

Similarly, hunting and game management activities support businesses directly related to the manufacture and sale of hunting and outdoor products and services (firearms and ammunition, camping and hunting equipment, and safety equipment related businesses), as well as specialist businesses including private game bird farms and hunting tour operators.

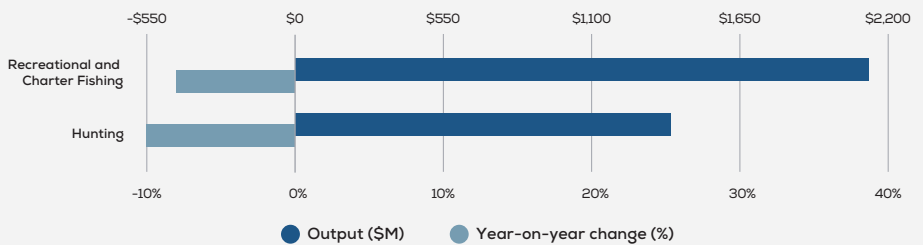
Both sectors also support fuel, accommodation, and food businesses.

It is difficult to estimate the economic value of these sectors because game harvest and fishing catch are not sold and paid for in markets, unlike the catch or produce of other primary industries. They therefore do not reveal the associated value they gain from hunting game or catching fish. As harvest or catch based (i.e. Gross Value of Production based) approaches do not capture all the community benefit elements of game hunting and recreational fishing, they cannot appropriately estimate the value of this sector.

Expenditure based measures of industry output are considered more appropriate for this sector and more comparable with Gross Value of Production measures. Using these methods, the recreational and charter fishing industry was estimated at \$2,138 million, with \$1,406 million attributed to hunting and game management. The estimated combined industry output of hunting and recreational fishing in 2019–20 was \$3,544 million.



## Hunting & Recreational Fishing Estimated Output 2019-20



Source: DPI (2020f)

## Fishing Licence Fees at work

Persons over the age of 18 are required to pay a fishing licence fee to fish in NSW waters (some exemptions apply).

All money raised by the NSW Recreational Fishing Licence Fees is placed into the Recreational Fishing Trusts and spent on improving recreational fishing in NSW.

Each year, around \$15 million is raised from the sale of recreational fishing licences and re-invested back into projects that benefit recreational fishing.





RECREATIONAL AND CHARTER

# Fishing



NSW is renowned for having some of the best fishing locations of anywhere in the country and is an extremely valuable industry in coastal and inland communities.

Output \$2,138M est.

Down 8% yoy.

## Participation <sup>ah</sup>

An estimated 275,000 long-term (1 & 3 year) NSW recreational fishing licence holders and their households (RFL households) fished at least once in NSW and ACT waters in the twelve months prior to September 2018. Males accounted for 88% of this group, compared with 12% for females. The highest number of fishers in RFL households who fished in 2017-18 was in the 45-59 years age group <sup>73</sup>.

## Effort

The most common recreational fishing method used was line fishing, with 82% of fishers in RFL households using lines (bait and/or artificial lures and jigs) during the 12-month period, accounting for 91% of all fisher days. Line fishing with bait accounted for a majority (43%) of all fisher days, with lure and jig fishing at 30% of the total and the use of both line fishing methods (within the one fishing event) at 18%. The number of fisher days spent using other fishing methods included hand-collecting methods (2%), pot/trap fishing (5%), diving methods (1%) and various types of net (mainly scoop nets) (1%) <sup>73</sup>.

### ESTIMATED EXPENDITURE



Recreational fishing  
\$2.117M

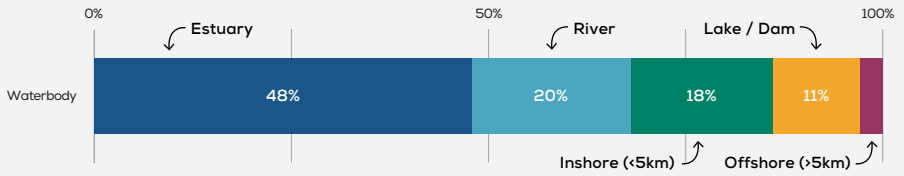


Charter fishing  
\$21.5M



## Recreational fishing licence household's fishing effort <sup>at</sup>

Proportion of fisher days



Source: DPI (2020g)

## Catch

For recreational fisheries assessment, total catch is divided into the component that is kept or harvested (not returned to the water) and that which is released (returned to the water whether alive or not). The harvested component may be used for a range of purposes, most commonly for consumption or for use as bait. The reasons for releasing or discarding catch may include adherence to regulations (e.g. size and bag limits), ethical

reasons (e.g. catch and release fishing) or undesirability (e.g. poor eating quality, damaged or diseased).

Fishers in RFL households captured a diverse range of scalefish, elasmobranchs (sharks and rays), crustaceans, and molluscs, with an estimated 9.3 million organisms caught during 2017-18. Of the total catch, 51% were retained and the remaining 49% were released <sup>73</sup>.



## Threatened fish rescued across NSW

DPI have conducted relocations of threatened fish from western NSW to the coast, to help protect our native fish species from challenging environmental conditions. Drought, high temperatures, bushfires and heavy rainfall placed already threatened fish species across NSW under even greater pressure in 2019-20.

Rescues have taken place in the Gwydir, Border Rivers, Macquarie, Lachlan, Upper Murray catchments in the Murray-Darling Basin and in the Clarence and Richmond River catchments on the coast.



RECREATIONAL

# Hunting



Hunters play an important role in the front line of biosecurity to detect and prevent the spread of animal disease <sup>67</sup>.

💰 Output \$1,046M est.

⬇️ Down 10% yoy.

## Overview

Regulated hunting activities generate a range of social and economic benefits for NSW.

The combination of drought and NSW bushfires saw an increase of pest animals on properties within NSW in 2019-20 and saw large populations of kangaroos moving to farming land and rural community areas.

These pest animals can cause damage to properties, compete with livestock for water and feed and decimate crops which can have a serious impact on NSW primary producers <sup>74</sup>. They can also have devastating effects on native animals and ecosystems.

Hunting is recognised as an important tool in the management of game and feral animals and is recognised as a legitimate recreational pursuit <sup>67</sup>. Hunters also play an important role in the front line of biosecurity to help detect and prevent the spread of animal disease and non-native invasive pests and weeds <sup>67 68</sup>.

Hunting can also provide extensive social benefits to participants who engage in active outdoor recreation with family and friends, harvest clean organic meat and reconnect with the land and the natural world.

## Regulating hunting

The NSW DPI Game Licensing Unit regulates hunting in NSW in conjunction with NSW Police. A range of programs are administered to ensure hunting in NSW is conducted safely, ethically and sustainably. The programs include licensing, communications, stakeholder engagement, education and awareness, wildlife management and compliance and enforcement.



## Game licensing unit regulatory statistics 2019-20



### Move beyond compliance

**14,602** Facebook likes,  
15,237 followers

Over **190** Facebook posts  
with an average engagement of  
10,000 per post



### Monitor compliance

**234** on ground operations  
totaling 4,291 man hours

**261** licence holder field  
contacts  
91% compliant

**18,859** days of electronic  
surveillance operations  
totaling 452,616 camera  
surveillance hours



### Education

**3160** courses delivered

**4134** video short courses  
undertaken

Over **31,200** education and  
awareness items  
disseminated



### Enforce the law

**549** illegal hunting incidents  
detected

**224** investigations  
completed

**94** enforcement actions



### Set standards

**2,860** additional licence  
holders

**4,573** annual call centre  
inquiries



### Support to comply

Attendance at **9** trade show  
events  
with over 2,550 contacts

Avg. of **46,947** emails sent  
per month  
563,367 eNewsletter deliveries  
annually

Avg. of **46,633** website hits  
per month  
559,592 annually

Source: DPI (2020a)

## Virtual adaptation for R-Licence accreditations

Hunters must complete the R-Licence Accreditation Course before they can apply for a NSW Restricted Game Hunting Licence (R-Licence).

This course is run locally by community trainers from hunting clubs and retailers as part of the Hunter Learning, Education and Accreditation Program (LEAP).

Due to COVID-19 restrictions the course is now offered via video conferencing to people in the comfort of their own home while still offering the same level of support from trainers.





# Horticulture



Dry conditions provided a variable production result in 2018-19, while citrus and tree nuts continued to benefit from strong exports markets <sup>91</sup>.

Output \$1,930M est.

Down 1% yoy.

## Horticulture

Horticulture output in 2019-20 was valued at \$1,930 million, a 1% decrease year-on-year. The area dedicated to production increasing 6% to 101,808 hectares in 2018-19 <sup>24 25</sup>. Dry conditions prevailed for much of 2019-20 and limited the availability of irrigation for many horticultural crops.

an average rate of 4% in 2018-19 and by 3% and 3.5% respectively in 2019-20 <sup>22</sup>.

Domestically the Sydney consumer price indices for fruit and vegetables increased by

Exports of horticultural products in 2019-20 totaled \$461.7 million with the volume of exported product decreasing 2% from 2018-19. Total horticultural exports to China grew 26% in value to \$128.3 million and, along with Japan and Vietnam accounted for 45% of exports by value <sup>94</sup>.

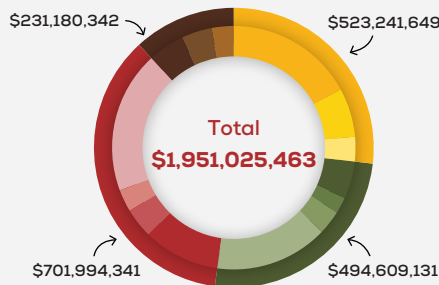
### Value of output 2018-19

#### Nuts

- Macadamias
- Almonds
- Other nuts

#### Fruit

- Oranges
- Table grapes
- Apples
- Other fruit



#### Nurseries, cut flowers & turf

- Nurseries
- Cultivated turf
- Cut flowers

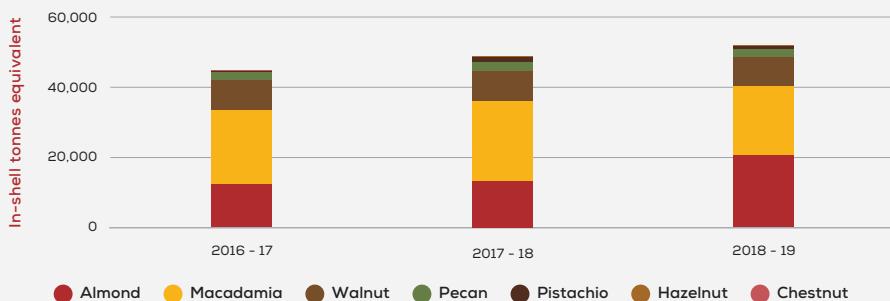
#### Vegetables

- Mushrooms
- Potatoes
- Melons
- Other vegetables

Source: ABS (2020e)



## Contribution to NSW tree nut production



Source: HIA (2020a)

## Nuts

Nut production totaled 43,088 tonnes<sup>91</sup> in 2018-19, up 46% year-on-year with a value of \$231 million. Almond production was responsible for the substantial year-on-year increase in production for NSW in 2018-19 producing 24,960 tonnes, up 169% as previously expanded tree plantings come into bearing age. Dry conditions impacted macadamia production with yield decreasing 15% year-on-

year to 6,512 tonnes in 2018-19, however strong demand supported prices for macadamias. NSW produced 24% of the national almond crop and 46% of national macadamia production in 2018-19 by volume<sup>95</sup>. Nut exports were valued at \$234.9 million in 2019-20 representing a 3% decrease year-on-year. Macadamias were the most valuable exported nut totaling \$190.9 million in 2019-20<sup>94</sup>.



## Fruitful facts on citrus varieties

Citrus growers now have information to boost orchard productivity, with the release of a series of first edition Primefacts developed by the DPI.

DPI has the largest citrus research and extension team in Australia and plays a leading role in supporting the NSW and Australian citrus industry through research, extension and resource delivery. The Primefacts aim to assist citrus growers to improve production and profitability across a range of varieties.



## Vegetables

Production of vegetables in 2018-19 was valued at \$494.6 million a 1.0% decrease year-on-year <sup>25</sup>. This was attributed in part to a 1% decrease in production to 322,508 tonnes <sup>25</sup>. Dry conditions and associated water limitations for irrigation capped production for a number of these crops.

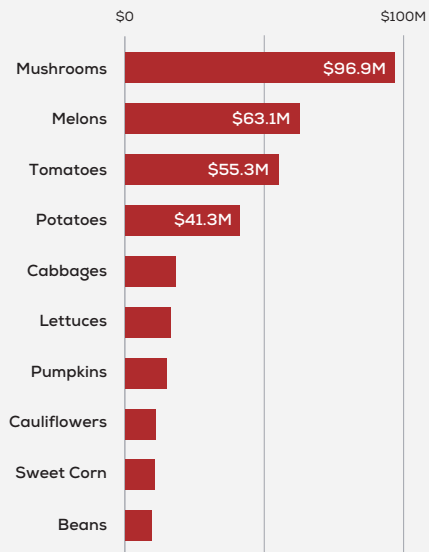
NSW vegetable exports continued to grow both in volume and value off the back of continued demand from high-value Asian markets. The value of exports finished 2019-20 at \$32.8 million, up 28% year-on-year <sup>94</sup> with 608 million tonnes of vegetables exported. Potatoes remained a principal export crop valued at \$6.8 million in 2019-20. Singapore retained its spot as the leading market with high growth rates seen for the value of cabbages and lettuce, fresh tomatoes and potatoes <sup>94</sup>.

## Fruit

Fruit production increased in 2018-19 to total 444,074 tonnes, an increase of 2% year-on-year. Production of mandarins, avocados and olives increased in 2018-19, while output of apples, grapefruit and prunes decreased. Orange production, the largest fruit industry, was 269,090 tonnes for 2018-19 <sup>25</sup>. Despite stable output from the previous year, the value of oranges increased substantially in gross value terms by 39% to \$198.8 million in 2018-19 <sup>25</sup>.

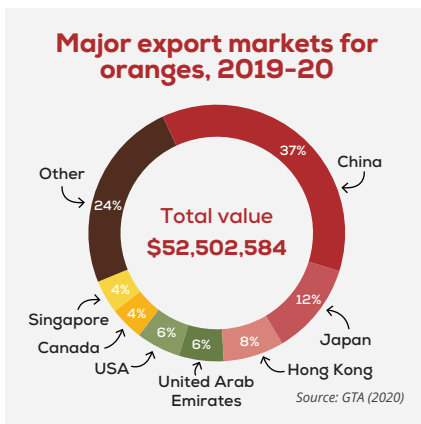
Exports totaled \$106.5 million in 2019-20, 1% higher year-on-year. Major export markets for fruit included China, Hong Kong and Singapore, accounting for 27%, 12%, and 11% respectively of total exports <sup>94</sup>.

### Gross value of top 10 vegetables, 2018-19



Source: ABS (2020e)

### Major export markets for oranges, 2019-20



## Nursery, Cut Flowers and Turf

The area committed to nurseries in 2018-19 increased 17% to 1,137 hectares on the year prior and was valued at \$332.8 million an increase of 18% year-on-year <sup>24 25</sup>. Industry surveys of growers continued to highlight confidence in the industry <sup>88</sup>.

Cut flower production in 2018-19 remained flat year-on-year with a total value of \$63.6 million <sup>25</sup>. Imports of cut flowers were valued at \$27.4 million in 2019-20 a 5% decrease year-on-year <sup>94</sup>. Increased purchasing of flowers through large supermarkets and convenience stores in recent years has resulted in lower farmgate prices with purchases based on price rather than quality <sup>100</sup>.

Extended dry conditions constrained demand for turf, while long-term drivers of demand included the number of new residential buildings and consumer attitudes towards alternate ground covers <sup>102</sup>. The value of turf produced in 2018-19 was unchanged at \$126.9 million <sup>25</sup>.



## Outlook

COVID-19 has created shocks in the supply chain, threatening the availability of seasonal labour and causing interruptions to freight channels for exports. However, long-term growth for horticultural produce remains linked with increasing demand for fresh and varied food options supported by increasing incomes, especially amongst Asian consumers. With the competitiveness of Australian horticultural exports enhanced by improving market access through tariff reductions and less restrictive export protocols <sup>6</sup>. Negative impacts on consumer incomes, especially amongst key export countries in Asia remains a risk to demand for high quality and high value produce <sup>99</sup>.

## Best practice bee management in macadamia

DPI published the first edition Primefacts Best practice bee management Primefacts in April 2020. This guide provides information to assist macadamia growers and beekeepers to ensure best practice management, covering topics on communications, hive placement, bee care and spray management. Macadamia growers are reminded to always warn nearby beekeepers by providing two days' notice before spraying, as a matter of courtesy, so that the necessary steps can be taken to protect the bees.





# Wine Grapes

Production continued to decline as poor seasonal conditions, low water allocations, high water prices, smoke and fire damage all tested the industry and put grape yields under pressure.

Output \$225M est.

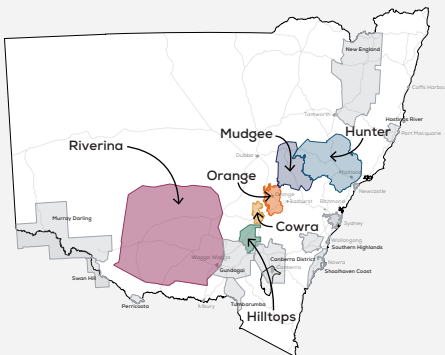
Down 5% yoy.

## Production

Despite the fall in production, on average grape quality was up. Successive drought years resulted in the production of lower yielding, thicker-skinned and smaller berries, with concentrated colour and aromatics and for red-wine producers, grapes with higher quality tannins <sup>140</sup>.

Smoke-taint was an issue where some vineyards were directly affected by the fires, with many grapes left unharvested. The most affected regions of NSW were the Hunter, Orange, Tumbarumba, Southern Highlands and Hilltops <sup>141</sup>.

## Regional crushed grapes



Region	Red	White	Red	White
<b>Mudgee</b>	\$752,023 1,045 tonnes	\$604,630 1,751 tonnes		
<b>Orange</b>	\$684,742 518 tonnes	\$1,236,766 939 tonnes		
<b>Riverina</b>	\$79,459,078 128,775 tonnes	\$56,352,417 268,547 tonnes		
<b>Hunter</b>	\$733,990 388 tonnes	\$2,267,769 1,278 tonnes		
<b>Cowra</b>	\$795,052 1,177 tonnes	\$751,591 1,577 tonnes		
<b>Hilltops</b>	\$766,522 994 tonnes	\$65,079 1,043 tonnes		

Source: Wine Australia (2020a)

## Price

Most varieties saw annual increases in price with Verdelho up 10%, Merlot up 8% and Pinot Noir up 6% more than for the 2019 harvest <sup>ak 142</sup>.

Competition for supply was the main driver of price, with the smaller yields forcing winemakers to source grapes from further afield. Price movements were also off the back of wineries from regions affected by the bushfires and smoke taint seeking alternative grapes from unaffected regions.



## Macroeconomic Conditions

Wine consumption fell dramatically as a result of the global shutdown of the food service and retail sector and large volumes of wine held up in storage or held up at ports. Adding to the softened demand was also an estimated increase in supply of 2020 Northern Hemisphere wines and large carry-over stocks from the large 2018 vintage <sup>84</sup>.

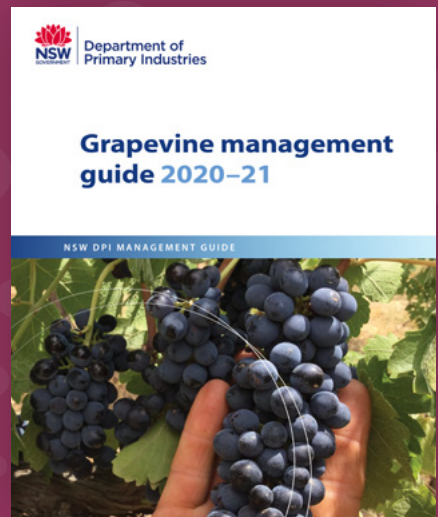
## Trade

A total of 195 million litres of wine was exported in 2019-20 at a value of just over \$551 million <sup>94</sup>. In the face of the COVID-19 pandemic, the total value of NSW wine exports increased by 2% along with a marginal volume decline of 3% <sup>94</sup> however, the full impact of the pandemic on wine consumption and the food service industry is still yet to be realised <sup>141</sup>.

The United Kingdom and China both continued to be a source of growth for NSW exports.

## DPI Grapevine Management Guide 2020-21

Viticulturists have the latest information for vineyard management at their fingertips, with the release of the new Grapevine Management Guide 2020-21 from the DPI. The guide provides articles on grapevine diseases, vine nutrition, vineyard management and wine research. Growers can also find information on the current projects being conducted at the National Wine and Grape Industry Centre (NWGIC), that aim to increase the development, sustainability and profitability of the wine industry.





# Fisheries



Fisheries was \$174 million, down 4% year-on-year. The aquaculture sector declined by an estimated 8% and the wild harvest sector by an estimated 14% <sup>60</sup>.

💰 Output \$154M est.

⬇️ Down 4% yoy.



## Wild Harvest

The wild harvest fishery sector accounted for 56.4% of the total value of the fishing industry in 2019-20. Over the last five years, wild harvest landings have remained consistent, at around 12,000 tonnes each year. Over the same time the value of the industry output has increased 12% to \$104 million <sup>66</sup>.

The high unit value, gourmet nature of mollusc species and crustacean species continues to drive the relative contribution of these categories to the overall value of the industry. In contrast finfish routinely contribute 75-80% of landings by weight, yet only account for around 46% of the industry's Output value.

## Aquaculture

In 2018-19 aquaculture output grew by \$1.96 million, or 2.5% year-on-year to reach \$80.4 million - \$43.6% of total NSW Fisheries output.

Sydney Rock Oysters experienced a strong year, growing 10.1% year-on-year to reach a value of \$53.6 million. In contrast Pacific Oysters were down to a value of just \$1.1 million, a fall of 63% from 2017-18 year. Pacific Oysters continued to struggle with a history of mortality events and limited supply of seed stock <sup>60 61</sup>.

Black Tiger Prawn output fell a further 42% year-on-year to a value of just \$3.4 million <sup>60 61</sup>.

Murray Cod and Barramundi sectors both experienced strong growth, up 30.9% and 29.3% year-on-year respectively. While barramundi remained a very small sector with a value under \$1 million, Murray Cod continued to experience strong investment and potential for export and its output reached \$6.4 million <sup>60 61</sup>.

# Trade

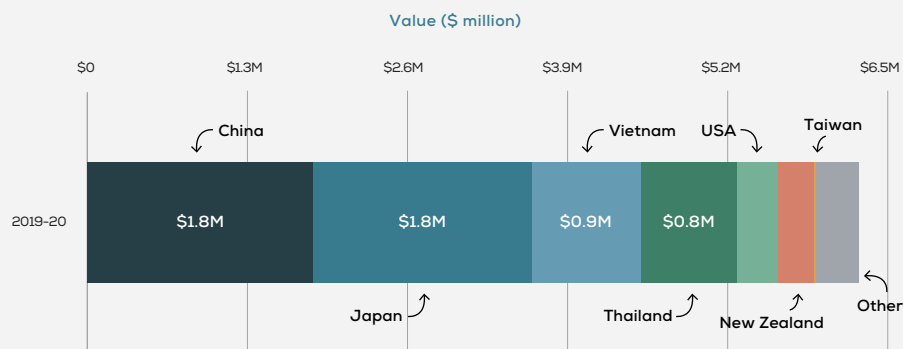
In 2019-20 imports reached a value (\$605 million) 96 times greater than exports <sup>3</sup>. Over the same time period, the value of NSW seafood exports declined almost 50%, to \$6.3 million.

Asian countries were the main export destination for NSW seafood products with China, Vietnam, Thailand and Japan being the

key markets. High value crustacean and mollusc were key export species <sup>2 6 94</sup>.

Imports of fisheries and aquaculture products were dominated by lower value products such as a canned or frozen fish, as well as higher value items like prawns and salmon <sup>2</sup>.

## NSW fisheries exports



Source: MLA (2020a)



## Oyster reef restoration in Port Stephens

Construction crews placed more than 3,300 tonnes of rock and over 180 cubic metres of recycled oyster shell onto reef restoration sites in Port Stephens Great Lakes Marine Park in 2019-20.

The oyster shell was collected from the local oyster farms and used to provide a base for oyster settlement on the new oyster reefs.

This is a fantastic way to improve the health of the estuary and marine park as oysters are natural water filters.



# Forestry

The Bushfires in 2019-20 were devastating to NSW State Forests (5.5m ha burnt) and commercial plantations (92.1 thousand ha burnt).

Output \$522M est.

Steady yoy.

## Production <sup>am</sup>

Total log production in NSW increased 2% to 6.5 million m<sup>3</sup> in 2018-19. Softwood production was the largest component, increasing 2% year-on-year to 5.1 million m<sup>3</sup>. Hardwood production also increased 3% to 1.4 million m<sup>3</sup> <sup>11</sup>.

The major categories of softwood production were sawlogs and paper pulplogs, accounting for 2.7 and 1.5 million m<sup>3</sup>, respectively. Within softwoods, production increased for paper pulplogs (up 9% year-on-year), panel logs (up 31% to 345,000m<sup>3</sup>), other minor log products (up 24% to 153,000m<sup>3</sup>) and fuel logs (up 55% to 34,00m<sup>3</sup>) <sup>11</sup>.

NSW had 393,200 hectares of commercial plantations as at 1 January 2019, unchanged from 2018. It was the second largest total area of Australia's states and territories second to Victoria's 418,500 ha <sup>11</sup>.

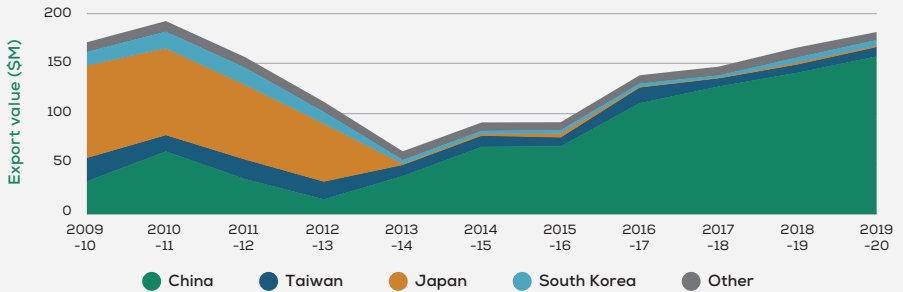
## 2019-20 NSW Bushfires

The 2019-20 bushfires were some of the most devastating bushfires in the State's history. 5.5 million hectares was burnt <sup>27</sup>, over 2,448 homes were destroyed and 25 lives were lost <sup>116</sup>. According to the Forestry Corporation of NSW, this bushfire season impacted 890,000 hectares of native State forests and 65,000 hectares of State forest timber plantations in NSW <sup>85</sup>.

Depending on the severity of fire and the species, some areas may survive and mature trees in some areas could be salvage harvested with the forestry industry conducting salvage operations across the state.



## NSW forestry export value



Source: GTA (2020)

## Trade

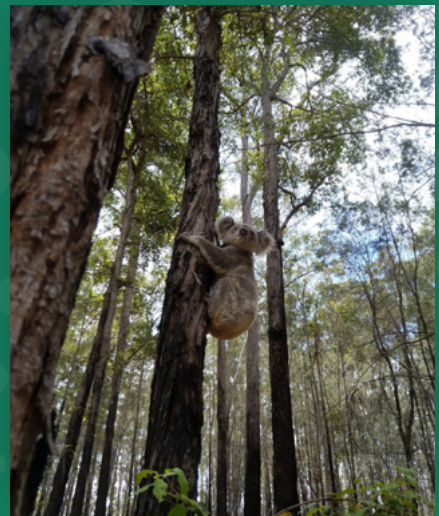
In 2019-20 NSW exports were \$181.4 million, up 9% year-on-year. China was the largest export destination with exports valued at \$158.3 million (up 12%), followed by Taiwan (\$9.4 million, up 13%) and South Korea (\$5.5 million, up 11%)<sup>94</sup>. NSW was the second largest exporter after Victoria, which exported \$332.1 million. Due to confidentiality issues there were \$1.1 billion in forestry exports, mainly woodchips, that were not attributed to any state.

NSW softwood in the rough was the largest export, up 7% to \$139.7 million<sup>94</sup>. This accounted for nearly 90% of NSW forestry exports by product<sup>94</sup>. NSW exports reached a 5-year high in May 2020 as salvage operations brought additional supply to market. NSW was a net exporter of forestry products with imports of \$99.6 million in 2019-20<sup>94</sup>.

## Koala tracking research

A koala tracking project that began in 2018 is still underway in north-east forests of NSW on the mid north-coast.

The project is using GPS collars on koalas to track their movements throughout the forest which will enable DPI researchers to look at the effectiveness of koala protections in State forests and relative use of young regenerating eucalypts after harvesting compared to mature forest that is excluded from harvesting.



# Statistic Tables & Sources

## 2020 Data Tables

Data supporting individual industry narratives can be downloaded by scanning the QR code.

A statistics table is available for each industry. These include data on industry output, production, price, export and import values, and trade balance figures, as well as industry specific information.

Consolidated data tables are also available which provide comparisons of output, production, price, exports, imports, trade balance, and jobs and business data across industries.

The data is provided for the last five financial years, with percent change figures.

**Scan the QR code for 2020 tables**



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# End Notes

- v** Cotton bales are defined as 227kg cotton per bale ex-gin.
- x** State level export data was restricted from August 2017.
- ac** Unless otherwise specified other coarse grains refers to oats, sorghum, triticale, maize and other mixed grains, other than barley.
- ad** Avg. Southern GS Allocations refers to the average General Security water allocation for the Murrumbidgee and Murray rivers.
- af** State level cotton export data was restricted in the 2017-18 fiscal year. Therefore, an estimate of NSW cotton export value is calculated using the pre data restriction 5-year average market share of national export value applied to current fiscal year national cotton export value.
- ag** State level barley export data is restricted
- ah** Data from the third (2017-18) state-wide survey of recreational fishing remains the most up-to-date information on recreational catch, participation and effort in NSW. A fourth statewide survey is due to be completed in October 2020.
- aj** In-shell weight except of almond, hazelnut and macadamia which included as kernel weights.
- ak** The total collected tonnes were estimated to account for 90.5% of all wine grapes crushed in 2019-20.
- al** At the date of publication, detailed industry information was not available, consequently the following production and price commentary analyses 2018-19 industry data.
- am** At the date of publication, detailed industry information is not available, consequently the following production, plantation and price commentary primarily analyses 2018-19 industry data.
- at** Recreational harvest weights presented here are for a subset of recreational fishers (long term licence holders and their households only) and are underestimates that are therefore indicative only.



