Oats: production, processing, trade flow and opportunities

A report to the Processed Oats Partnership (POP) Program

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GOVERNMENT OF WESTERN AUSTRALIA
GRAINS AUSTRALIA

AEGIC is an initiative of the Western Australian State Government and Grains Australia

Contents

Key findings

Oat information

- Estimates of Australian production, domestic milling, feed use and exports including industry estimates are variable and inconsistent.
- Global reporting of import and export data from individual countries may be delayed or require correction after posting which creates uncertainty regarding the accuracy of available data. Some data may be subject to confidentiality provisions.

To the extent that the data is reliable:

Production, use, price and milling capacity

- The area sown to oats in Australia has typically ranged from 700,000 to 1 million hectares.
- Australian oat production has mostly been about 1.2 million tonnes with only four of the past fifteen years exceeding 1.5 million tonnes.
- Over the past five years Western Australia has produced about 50% of the national production. New South Wales, Victoria and South Australia supply the bulk of the remaining production.
- Annual domestic demand for feed, food and processed raw oats is estimated to be around 1 to 1.2 million tonnes per annum.
- Oats are predominantly used for feed in Australia accounting for about 65 to 70 percent of total oat disposal annually. However, there is substantial variation in estimates of oats used as either feed or milling within Australia by local and international agencies.
- The milling oat price (OAT1) delivered to Kwinana has often ranged between $250 to $350 per tonne over that past three years. Milling oats prices delivered Kwinana improved to around $450 tonne in November 2023. Price for feed oats varies significantly by region. The Western Australian feed oat price delivered Kwinana has often been about $10-$50 per tonne below the milling price.
- National oat milling capacity, for food purposes, is estimated by industry sources to be almost 500,000 tonnes annually. Western Australia has the largest milling capability at just over 300,000 tonnes or 60% of the total national capacity. Victoria and South Australia contribute much of the balance.

Export and trade flow

- Oat trade tends to be very regional (Canada focused on North America, Australia focused on Asia and Europe focussed on intra-European trade) except for Russia and Ukraine that are more global particularly to China and India.
- In 2022 Australia exported about 600,000 tonnes of raw oats and 175,000 tonnes of processed oats. Western Australia dominates raw and processed oat exports and since 2018 has accounted for over 80% of Australian exports.
- Major markets for Australian raw oats include China, Japan, Mexico, India, Malaysia and Sri Lanka. Mexico has been an irregular, but at times large buyer of Western Australian oats.
- Globally, rolled and flake oat exports have doubled since 2010 from about 400,000 tonnes to 811,000 tonnes in 2021. Exports of otherwise worked oats (for example, hulled, pearled, sliced or kibbled excluding rolled or flaked oats), have increased from about 150,000 tonnes to over 500,000 tonnes in 2021. Although trade of these

products between Canada and USA is significant, the continuing upward trend in the uptake of these processed products will benefit WA manufacturers and growers.
- China, Japan, Malaysia, Taiwan, India and the Philippines have been significant export markets for processed oats from Australia.

Opportunities and trends

- While rolled and flaked oat remains dominant in global exports of processed products, otherwise worked oats export market opportunities are also increasing, potentially providing new opportunities for WA growers. USA imports of rolled and flaked oats, mostly from Canada, have increased from 117,000 tonnes to 180,000 tonnes (2010-2022) while otherwise worked oats imports have increased seven-fold from 34,000 tonne to 243,000 tonnes in this period. China's imports of rolled or flaked from Australia have increased from small quantities in 2015 to over 34,000 tonnes in 2022. Otherwise worked oats imports from Australia have also increased from negligible to about 10,000 tonnes in 2022. Taiwan remains the largest destination for otherwise worked oats from Australia.
- Although not detailed in this document tariffs and even non-tariff measures can limit opportunity for Western Australian and Australian oat manufacturers. As an example India holds potential for Western Australian and Australian processed oats but a 30% tariff is applied to processed oat imports from Australia. The Trade and Market Access committee of Grains Australia will assist in addressing tariff and non-tariff matters on behalf of the Australian industry and is working with the Australian government on market access matters.
- There are many other changes happening at a global level that could impact opportunities for Western Australian oat growers and AEGIC will report in more detail on these opportunities in future outputs as part of reporting requirements to the POP. For example, Sri Lanka has increased imports of raw oats from Western Australia, over the last four years, importing 13,400 tonnes in the first ten months of 2023. Since 2018 Russia has become a major raw oat exporter to China reaching 111,000 tonnes in 2022. Chile was a raw oat exporter but is now exporting more processed oats, mostly to South American countries but also into India.

POP member feedback on the initial findings in this report will be valuable and contribute to greater shared understanding of oat opportunities and potential industry improvements.

Recommendations to POP

1. **Prioritise data collection and reporting**. The Australian oat industry should prioritise enhancing the collection and reporting of data regarding oat production, trade, and usage. Accurate and comprehensive data sets help instil confidence among investors, facilitating strategic decisions necessary for industry growth. AEGIC, with support from Grains Australia, the Grains Research and Development Corporation and the Agricultural Trade and Market Access Cooperation (ATMAC) program is developing a Grain Markets Insights Portal to make global grains information more accessible to Australian stakeholders. Given the need for better oat information we have accelerated the incorporation of global raw oat and processed data into the portal. The portal can be demonstrated to the POP in early 2024.

2. **Clarify information on oat production and trade**. It's essential to improve the information surrounding oat production and trade. The opacity of current data likely contributes to erratic production cycles. As highlighted in Ross Kingwell's 2023 paper "Oats' Growing Pains", completed within this project, the 'sweet spot' for oat production is often exceeded due to the nature of global oat trade, which is focused on specific regions and is limited in volume. Given Australia's oat production is closely aligned with the demand from key Asian export markets, even minor changes in sown areas can surpass the demand from premium export markets. Wider dissemination of clear, high-quality information to growers and wider industry will help avoid such imbalances.
3. **Further examination of selected markets.** AEGIC, in concert with POP, will identify and further examine raw and processed markets that have been growing over the last five years within Output 2.
4. **Increase reports on competitor activities.** The industry should increase the frequency of reports on the production, marketing activities, and investment decisions of oat competitors. This step is vital for growers and the industry at large to enhance their understanding of the market. Such knowledge is instrumental in making informed decisions, aiding in the capture and development of premium markets. Regular insights into competitor strategies will equip Australian growers to adapt and remain competitive in the global market.
5. **Tariffs and non-tariff measures.** Proactive industry action is needed to elevate market access issues on behalf of oat growers and exporters. Grains Australia is advancing initiatives in this area. The WA oat industry needs to ensure its market access priorities are communicated.

Introduction

To support the growth of the oat industry in Western Australia over the next 20 years, the State Government is providing $10.12 million to the Western Australian Agricultural Authority (WAAA) to manage the industry-led Processed Oats Partnership (POP) Program. Industry partners are co-contributing cash, technical expertise, and other in-kind support.

This report is provided as a component of Output 2 of the AEGIC based POP activities within the project titled "Economic lens to capture increased market value for oats through industry innovation and better targeted industry investment". The purpose of the project is to provide the POP and in turn Western Australian industry with a better understanding of the rates of growth in demand for oats and oat products in key and emerging markets. This knowledge will give useful market intelligence to oat marketers, oat producers, and oat processors to aid their strategic decision-making.

Australian oats: Area sown and production

- Australian oat production is dwarfed by wheat and barley production (Figure 1 and Figure 2). The five-year average for Australian wheat and barley production being 28.0 and 12.5 million tonnes compared with oat production being 1.5 million tonnes.
- The area sown to oats, across Australia and as reported by the Australian Bureau of Statistics (ABS), has fluctuated from 688,000 hectares to 1,070,000 hectares in the period from 2010-11 to 2023-24 (Figure *3*).
- There are multiple suppliers of Australian oat area and production estimates from international organisations (Food and Agriculture Organisation of the United Nations (FAO) and the United States Department of Agriculture (USDA). All of these appear to use ABS estimates except for USDA 2023-24 forecasts which vary slightly. The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) also publish oat area and production estimates which are the same as those supplied by ABS.
- Western Australia produces around 50% of the national production of oats, five other states produce the balance - New South Wales (22%), Victoria (16%) and South Australia (10%), Queensland (2%) with Tasmania a minor producer (Figure 5). In two of the 14 years NSW production has approached or exceeded production in WA (Figure 6).
- While the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Grain industry Association of Western Australia (GIWA) regularly report planting and production estimates, GIWA figures are consistently about 100,000 to 200,000 tonnes lower than ABARE estimates (Figure 7).
- Some oat manufacturers in eastern Australia have developed their own collegial oat information sharing and reporting systems which they believe provide better estimates than government sources.

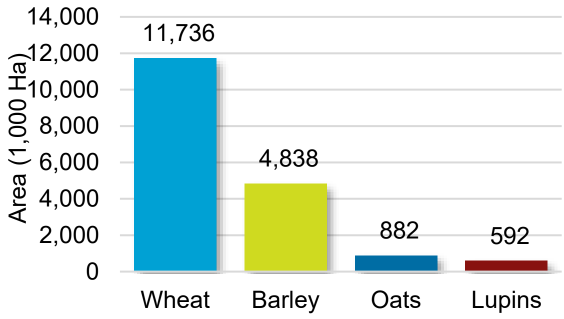

Figure 1: Five-year average harvested area of wheat, barley oats and lupins sown for grain.

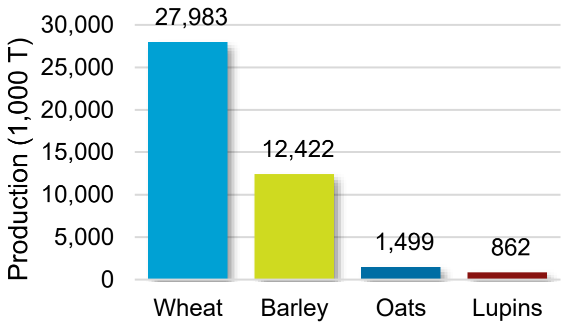

Figure 2: Five-year average production of wheat, barley oats and lupins sown for grain.

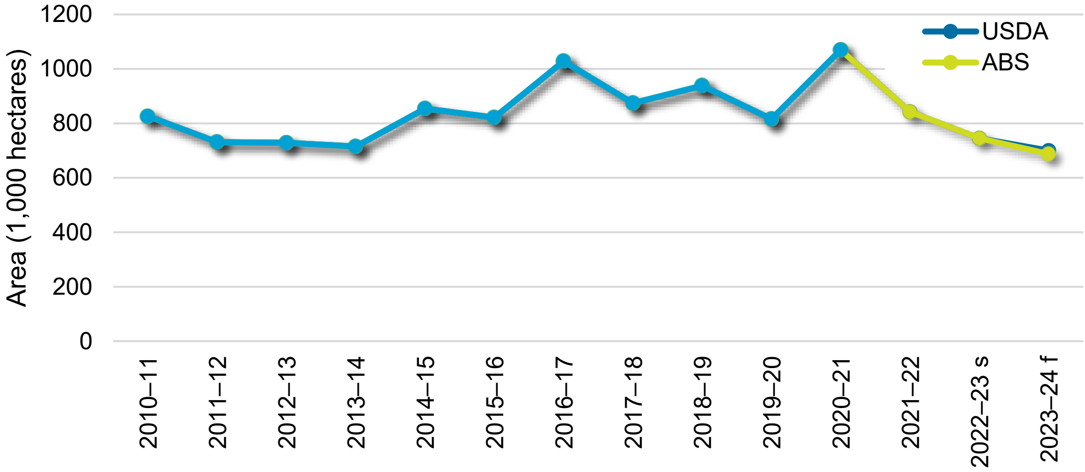

Figure 3. Harvested area of oats sown for grain in Australia from 2010 to 2022, estimated for 2022-2023 (s) and forecast for 2023-24 (f). Source, ABS, FAO and USDA.

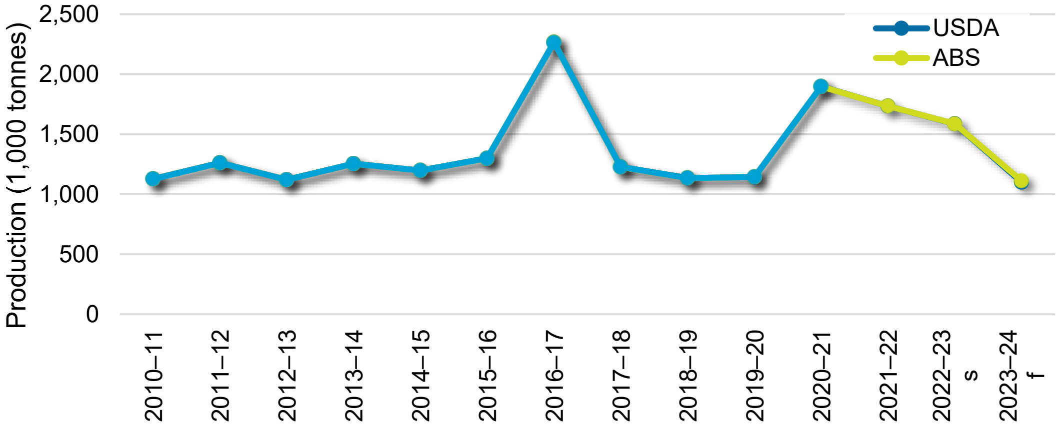

Figure 4. Production of oats sown for grain in Australia from 2010 to 2022, estimated for 2022-2023 (s) and forecast for 2023-24 (f). Inset shows the five-year average production of wheat, barley oats and lupins sown for grain. Source, ABS, FAO and USDA

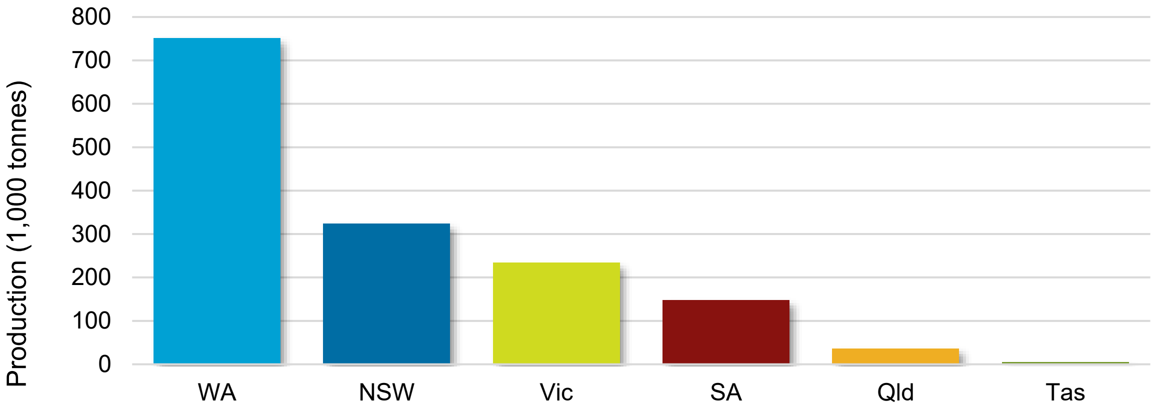

Figure 5. Five-year average (2018-29 to 2022-23) production of oats for grain by Australian state. Source ABS.

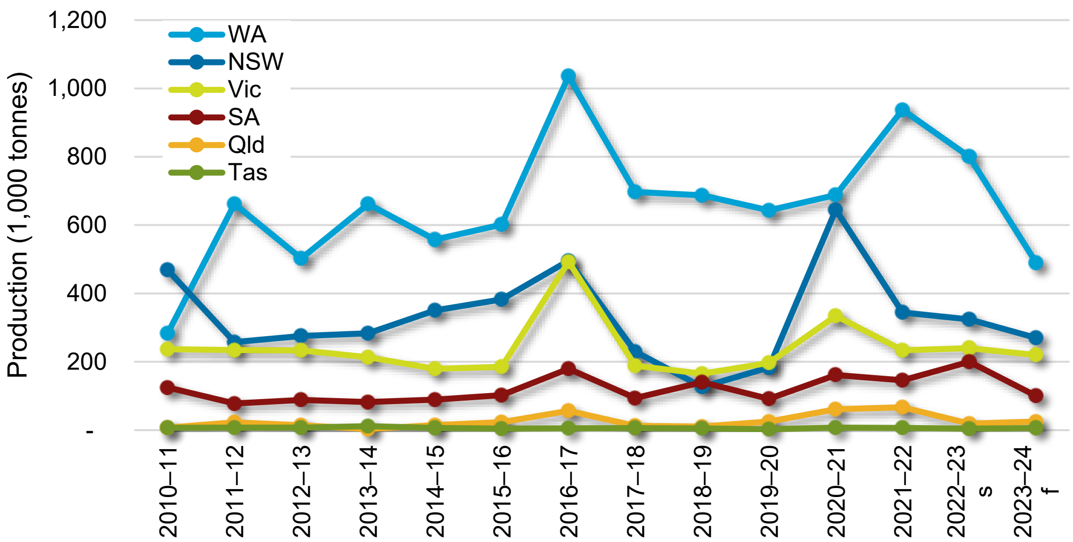

Figure 6. Production of oats sown for grain in Australian states from 2010 to 2022, estimated for 2022-2023 (s) and forecast for 2023-24 (f). Source ABS.

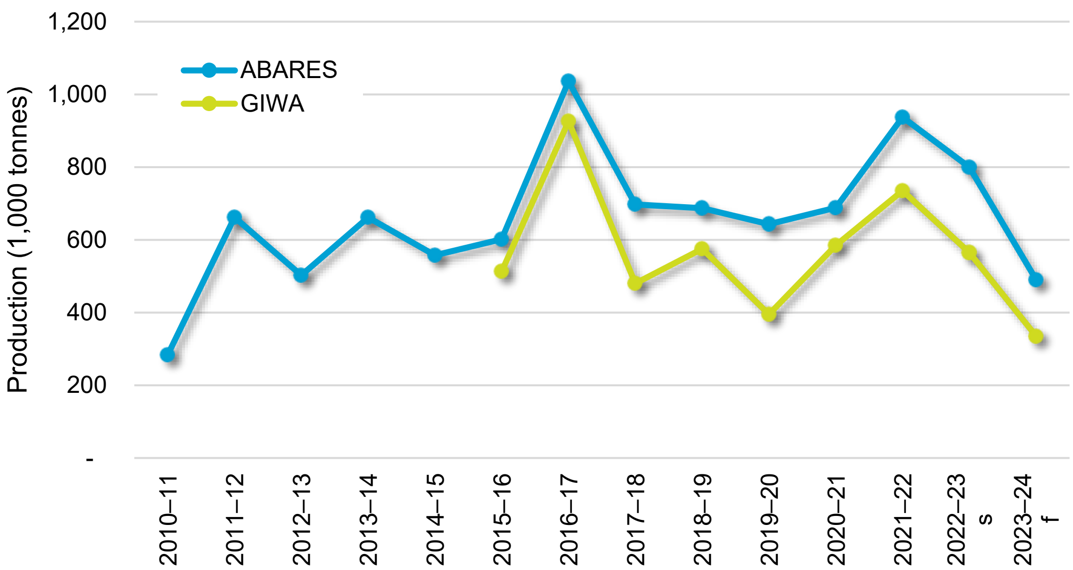

Figure 7. Production of oats sown for grain in Western Australia from 2010 to 2022, estimated for 2022-2023 (s) and forecast for 2023-24 (f). Source ABARES and GIWA.

Oat pricing - grower and export

- The milling oat price Free into Store (FIS) Kwinana has often been in the range of $250 to $350 per tonne over the last three years. Prices have been on an upward trend from July 2023 (Figure 8).
- The final equity for CBH OAT1 pool for 2022/23 was $392.62 FIS Kwinana and $402.69 at Albany (data not shown). OAT2 prices were $384.62 and $394.69 respectively (all prices quoted assume distribution payment option). Prices improved from earlier pool estimates as ocean freight was executed at a lower cost compared to previous estimations. The 2023/24 OAT1 (EPR distribution payment) is estimated at $490.00 (12 Dec 2023). All prices quoted are per tonne.
- The Western Australian feed oat price delivered Kwinana can be about $10-$50 per tonne below the milling price (OAT1). Price for feed oats varies significantly by region (Figure 8 compared with Figure 9).
- Growers in WA may have received higher prices for feed oats than producers in other states (Figure 9 compared with Figure 10).

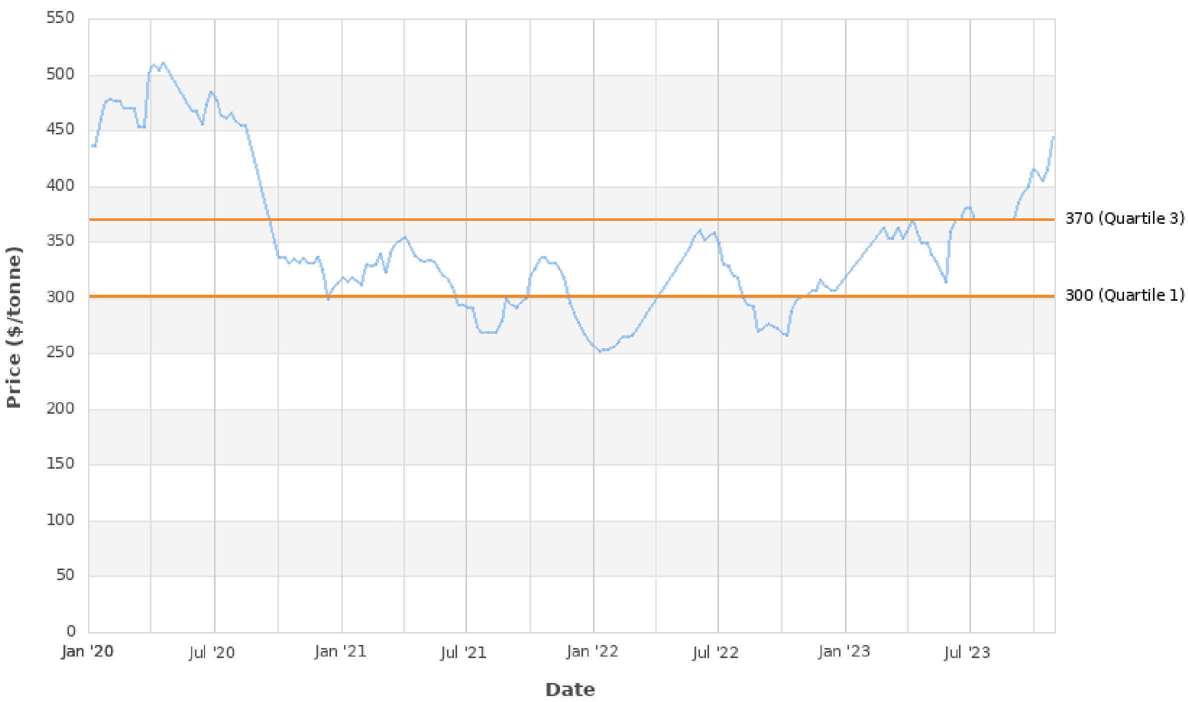

Figure 8. Milling oat price (FIS) delivered to Kwinana, Western Australia from January 2020 to November 2023. Source Ag Commodity Prices.

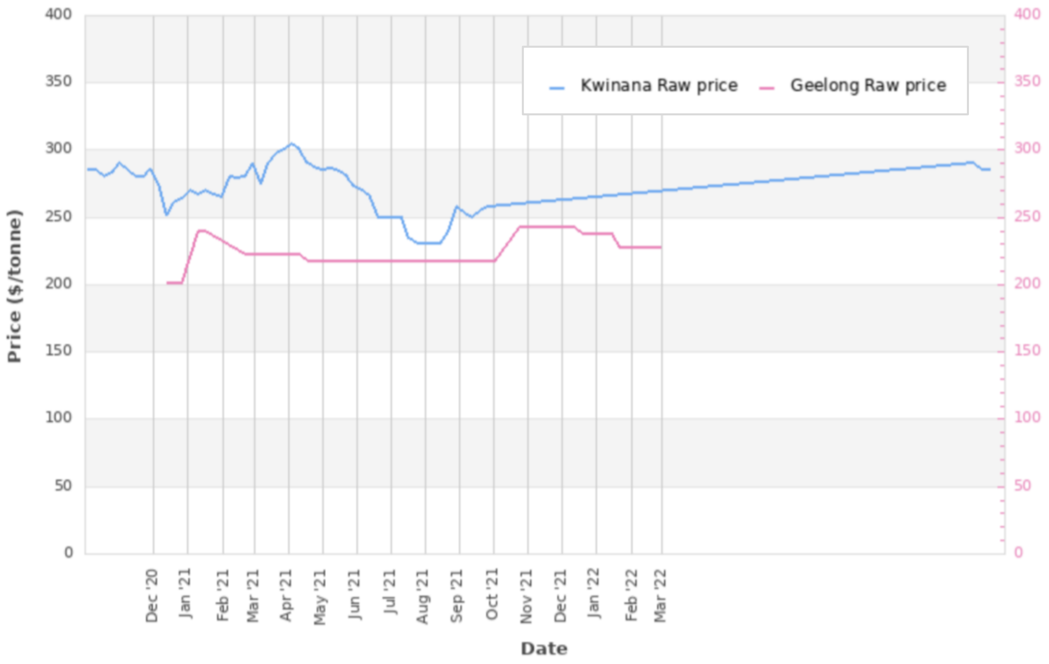

Figure 9. Feed oat price delivered to Kwinana, Western Australia or Geelong, Victoria from January 2020 to November 2023. Source Ag Commodity Prices.

Figure 10 and Figure 11 provide information on feed prices delivered Sydney and the average monthly Free on Board (FOB) price for export and raw and processed oats. These prices should be treated as indicative only given timing of sale, exchange rate and many other factors contribute to actual or final domestic or FOB pricing.

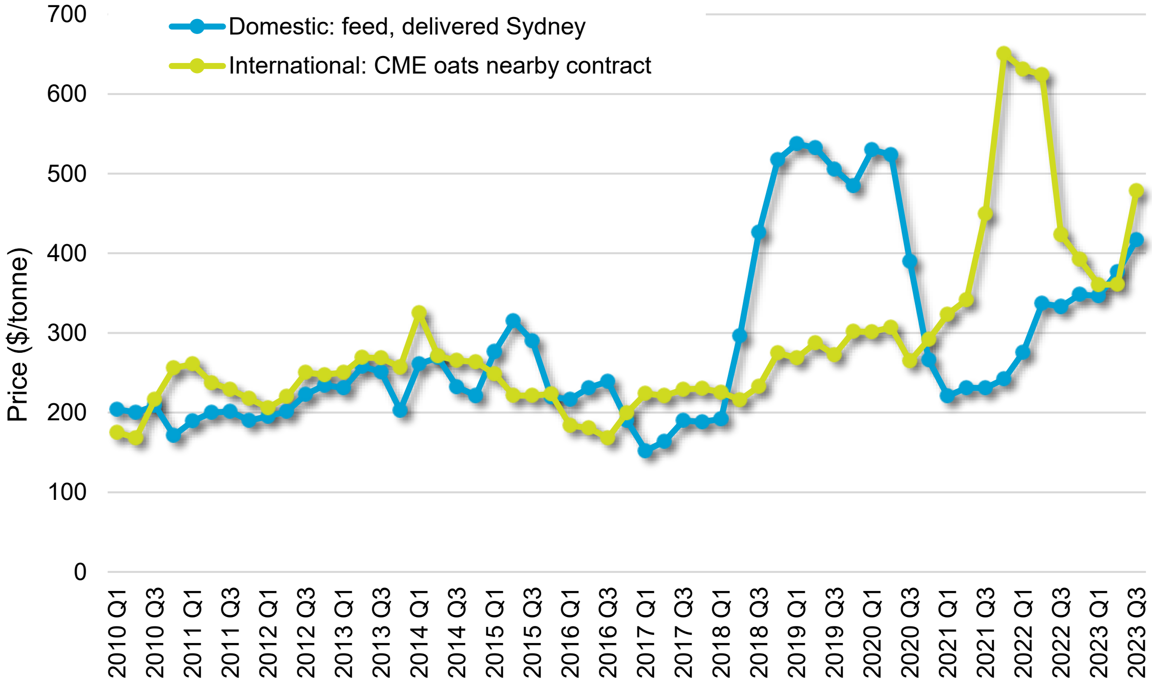

Figure 10. Domestic feed price for oats and the CME oat international contract price from 2010 to 2023. Source ABARES. The CME International price is the average of daily offer prices made in US dollars and converted to Australian dollars using quarterly average of daily exchange rates.

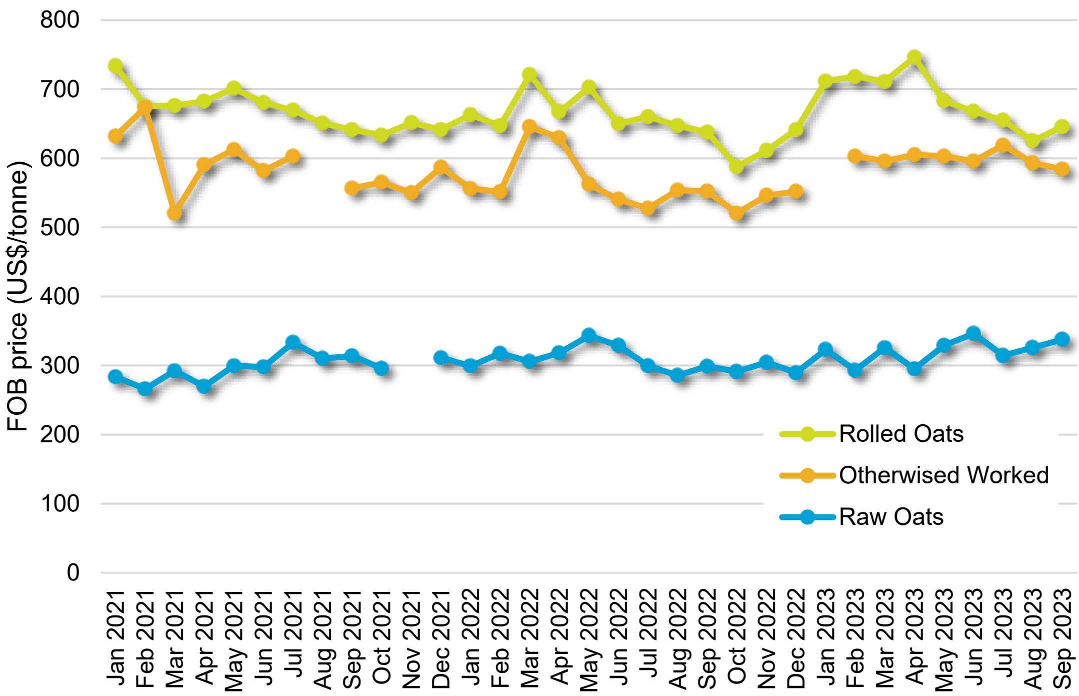

Figure 11. Average monthly FOB price ($US/tonne) obtained for Australian export raw and processed oats from 2021 to 2023. Price calculated from total FOB value divided by net weight of tonnes exported. Note in months where export volumes were too low a price has not been calculated. Source UNComtrade.

Australian supply and demand position

- ABARES estimates indicate that around 1.2 million tonnes of raw oats are used for feed, food and processed purposes with exports around 278,000 tonnes (five-year average 2017/18 - 2021/22) (Figure 12).
- USDA estimates of Australian oat feed use (Figure 13) are 874,000 tonnes (five-year average 2018/19 - 2022/23). Although the latest estimates from FAO only run to 2021, they estimated Australian oat feed use as around 1.04 million tonnes processed oats at 243,000 tonnes and exports at 116,000 tonnes.
- USDA estimate that the use of oats as feed has decreased slightly since 2021 as export volumes of raw oats have increased.

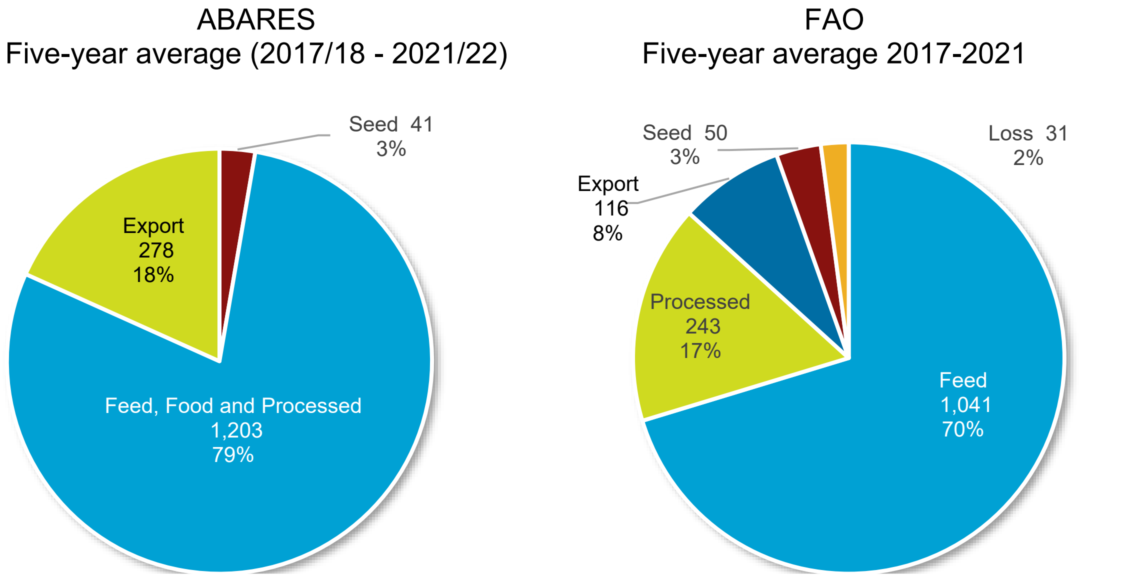

Figure 12 Disposal of Australia oat grain, as estimated from two sources FAO and ABARES. Data labels provide end use, quantity used (1,000 tonnes) and proportion of total use (%).

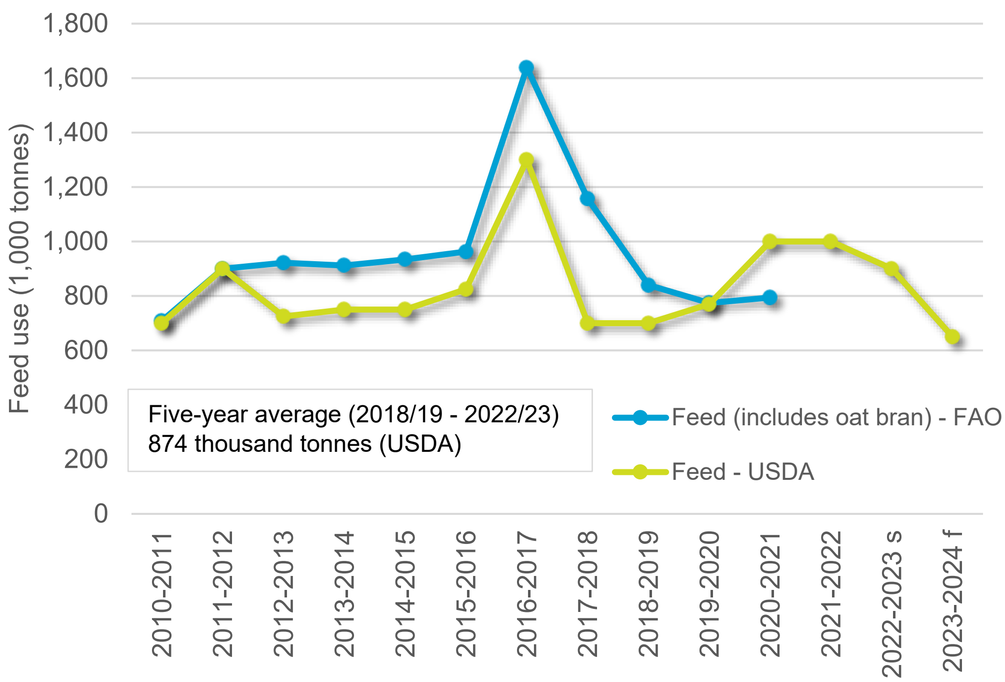

Figure 13. Quantity of Australian oat grain used domestically for feed as estimated by two sources (FAO and USDA).

- Table 1 presents a combination of information collected by AEGIC from two industry sources being the GIWA and an oat purchaser in NSW. The table is provided to illustrate the potential variability of information on oats. In this case the ABS production data is ignored.
- Annual domestic demand for seed, feed and milling of raw oats was estimated to be around one million tonnes per annum by the NSW source – this is 200,000t difference to official Australian and international sources. Australian oat exports were

estimated to be around 500,000 tonnes annually over the last two years, this is significantly different from other data sources.

- Over the last few seasons stock unsold (carry-in) was estimated by the NSW source to be in the range of 172,000 - 351,000 tonnes indicating there were more oats than needed for domestic and export demand.

Table 1. Supply and disposal of oat grain as estimated by Australian industry sources (GIWA for WA production and other estimates from a NSW oat purchaser).

Supply and Demand	22/23	23/24
Remaining stock from prior season (“Carry in”)	351	172
Production	1352	1040
Total supply	1703	1212
Seed	36	37
Milling	495	495
Feed	500	500
Exports	500	500
Total Usage	1531	1532
Remaining stock (“Carry Out”)	172	-320

Domestic manufacturing

- National oat milling capacity, for food purposes, is estimated at 495,000 tonnes (Table 2).
- Western Australia has the largest milling capability at 305,000 tonnes or 60% of the total national capacity. Victoria and South Australia contribute much of the balance (Table 2).
- There are six main oat milling companies in Australia with plants across eight locations (Table 3).

Table 2. Oat milling capacity by state in Australia (food companies only). Source: industry estimates.

National milling oat capacity (tonnes)	WA	SA	VIC	NSW	QLD
495,000	305,000	80,000	110,000	-	-

Table 3. Oat milling capacity by company in Australia (food companies only). Source: industry estimates.

Company	Company oat milling capacity total	Plant locations	Plant capacity by location	% National capacity
Unigrain	190,000	Smeaton, VIC	70,000	14%
		Wagin, WA	120,000	24%
Blue Lake Milling	140,000	Bordertown, SA	80,000	16%
		Dimboola, VIC	-	0%
		Forrestfield, WA	60,000	12%
Nestle/Uncle Toby's	40,000	Wahgunyah, VIC	40,000	8%
Avena	5,000	Wandering, WA	5,000	1%
PepsiCo/Quaker	120,000	Forrestfield, WA	120,000	24%
National capacity	495,000		495,000	100%

Australian oat exports

- ABS data indicates raw oat exports have fluctuated from around 20,000 tonnes in 2016 to 600,000 tonnes in 2021 (Figure 14). In 2022 Australia exported 586,000 tonnes and as at October 2023 467,000 tonnes (data not shown). The ABS export data for 2013-2019 is, however, substantially understated when compared with that of other sources.
- UNComtrade data is presented in two forms. The first where Australia reports the quantity of raw oats exports. This is primarily based on ABS statistics and is hence mostly the same as ABS figures except for 2021 where ABS reports almost 200,000 tonnes more exports that UNComtrade. The second form of reporting from UNComtrade is where importers report the quantity of oats imported from Australia. These figures vary substantially from ABS data.
- ABARES presents Australian raw oat exports in its annual crop report. ABARES figures are different from both ABS and UNComtrade data with exports ranging from 119,000 tonnes to 575,000 tonnes from 2010-2022. The ABARES data is reported for marketing year which may explain some of the difference in the data (in Figure 14 the second part of the marketing year is plotted against the calendar year – e.g. the 2009-2010 figure is plotted against 2010). Differences between the marketing and calendar year however are unlikely to explain the large and consistent difference between ABS and ABARES data between 2013 to 2019.
- All data sources tend to show a greater level and cohesion from 2020 onwards, although significant variation still remains.
- Differences in processed oat exports also exist between data sources (data not presented). We have combined data from different sources for raw and processed

oats in Figure 15 to provide our assessment of the most reasonable indication of exports.

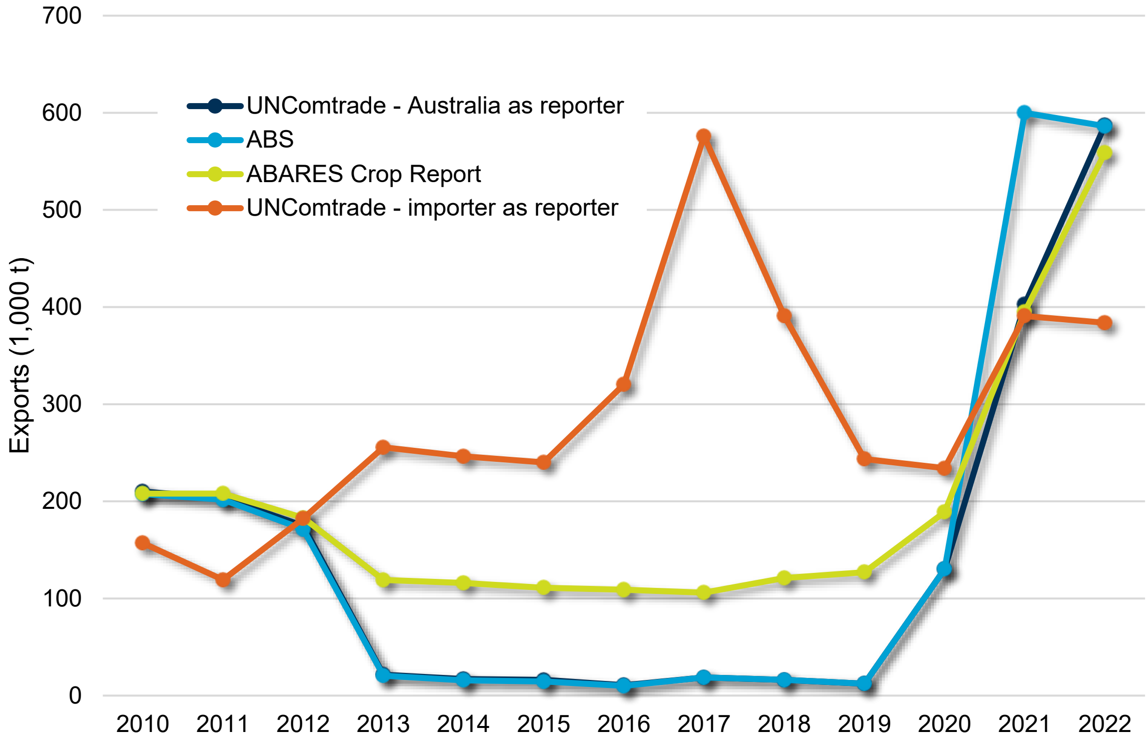

Figure 14. Quantity of Australian raw oat grain exported from 2010 to 2022 as estimated by Australian and international sources. UNComtrade data is presented as two sources. The first where Australia reports its exports and the second where importers report the quantity of oats imported from Australia.

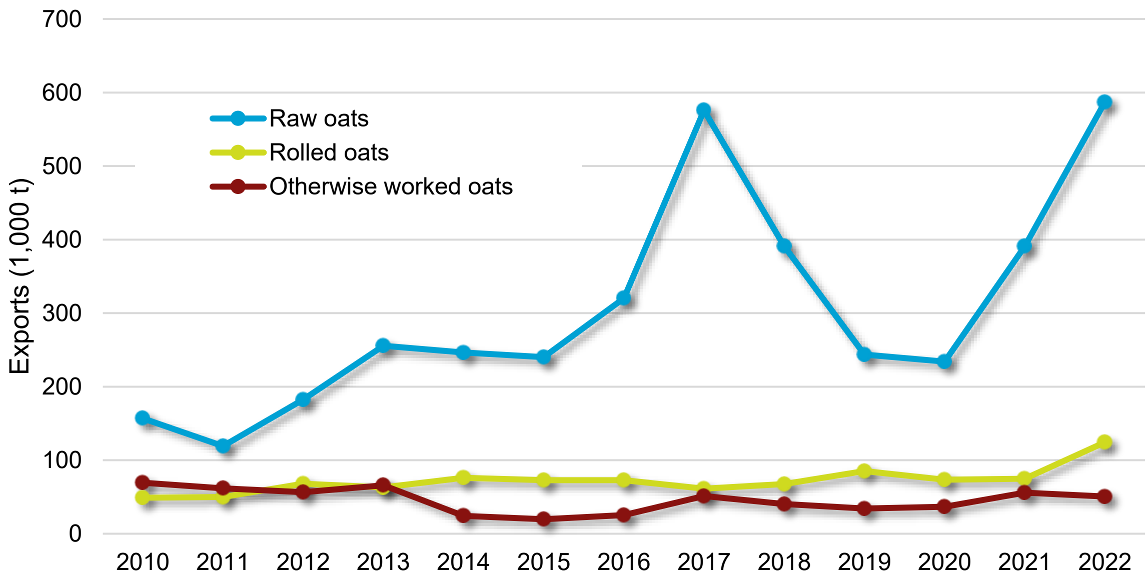

Figure 15 AEGIC assessed best estimate of the quantity of raw oats and processed oats exported by Australia from 2010 to 2022. Data sourced from UNComtrade and combines mirror imported data from 2010 to 2021 (quantity of oats reported as imported from Australia by importing countries) and exports reported by Australia for 2022.

- Western Australia dominates raw and processed oat exports and in 2021 and 2022, has accounted for over 80% of Australian exports (Figure 16).
- Since 2021 China, Mexico, India, the United Arab Emirates (UAE), Japan and Malaysia have been significant export markets for Australian raw oats (Figure 17). Mexico is usually served by Canadian oats and over the past decade has only imported oats from Australia in significant volumes in 2022 and 2023.
- Australian rolled and otherwise worked oat exports increased from around 76,000 tonnes in 2010 to 172,000 tonnes in 2022 (Figure 15). Taiwan, Malaysia, India and China are key markets. Interestingly exports of processed product to China have increased from around 200 tonnes in 2016 to 44,000 tons in 2022 since 2019 (Figure 18). China has historically sourced raw oats rather than processed oats.
- Several other countries are importing more Australian processed oat products with Japan and Malaysia showing greatest upward trend (data not shown).
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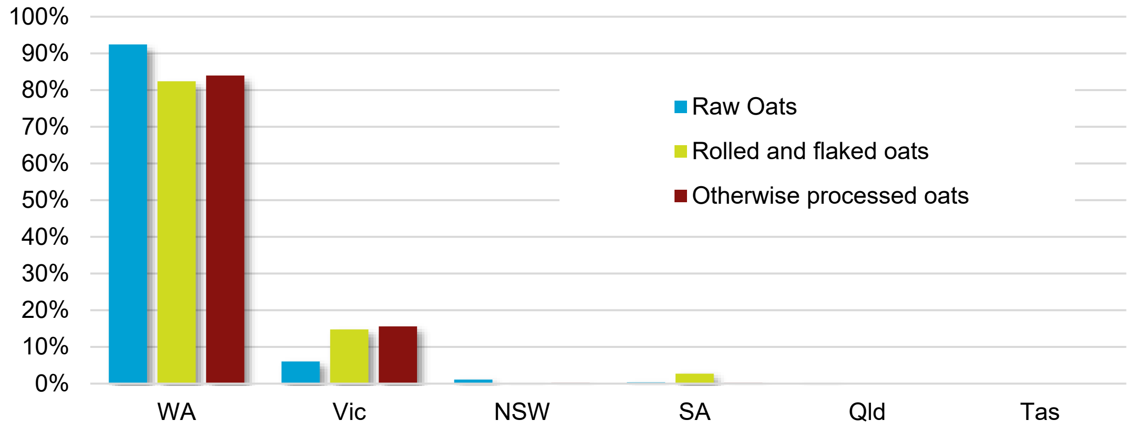


Figure 16. Proportion of raw and processed oat exported by Australian states on average from 2021 to 2022. Source ABS.

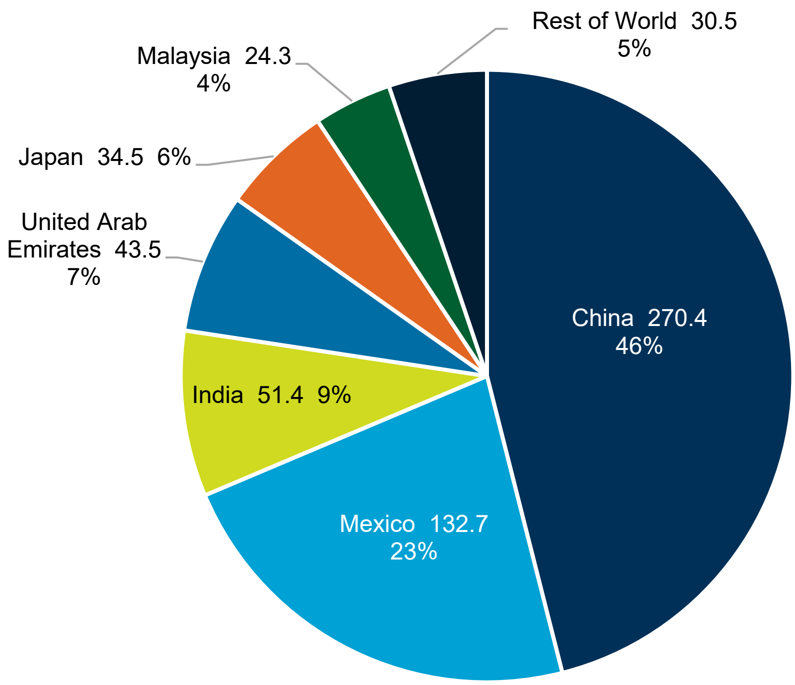


Figure 17. Major destinations for Australian raw oat exports in 2022 ((1000 tonnes and percentage of total). Source ABS

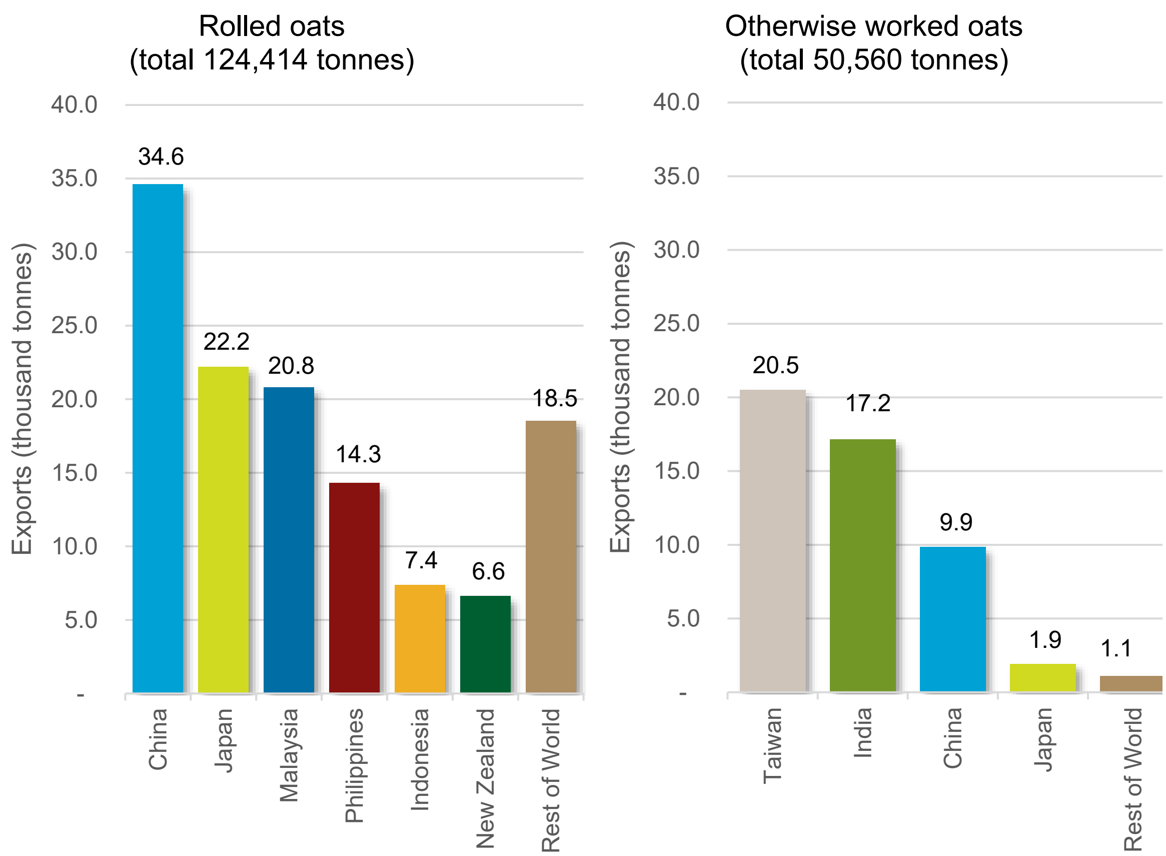


Figure 18. Major export destinations for Australian processed oats in 2022. Source ABS.

Western Australian raw and processed oat exports

- Figure 19 shows raw and processed oat exports over time as reported by ABS. Some of the values are understated, particularly between 2013 to 2019, and others overstated. Exports figures in 2021 are inflated by a large estimate of over 200,000 tonnes recorded as exported to Japan. In contrast, Japan reports imports from Australia in 2021 totalled only about 12,000 tonnes.
- Major markets for raw oats in recent years include China, Japan, Mexico, India, Malaysia and Sri Lanka. Exports to Sri Lanka has increased from 1,000 tonne to over 13,000 tonnes over 4 years (Figure 20).
- Major markets for Western Australian processed oats include Western Australia's major export destinations include China, India, Taiwan, Philippines and Malaysia.

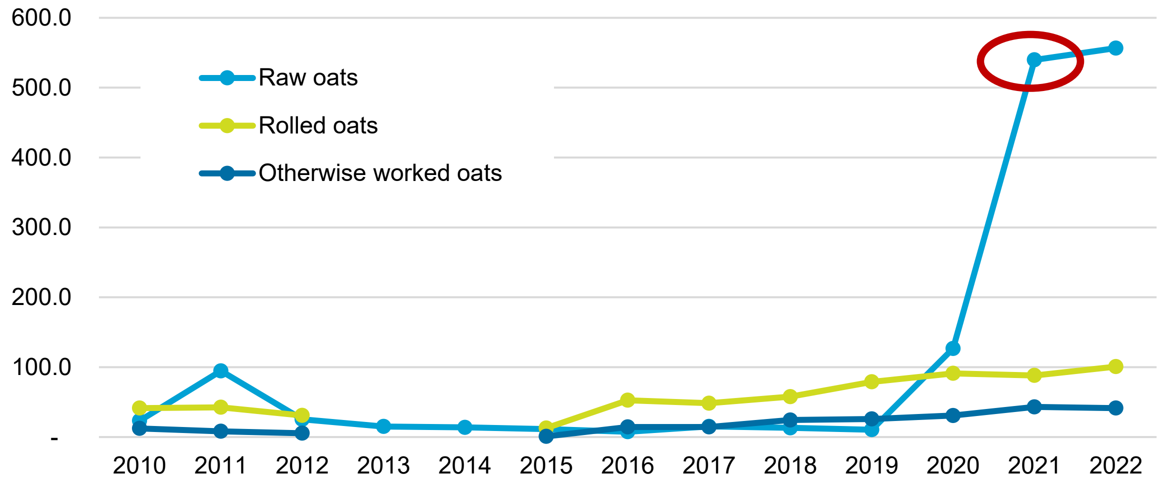


Figure 19. Raw and processed oat exports from Western Australia from 2010 to 2022. Note Processed oat data not presented for 2013 and 2014. Exports are likely to be under reported between 2013 to 2019 and over reported in 2021 indicated by the red circle. Source ABS.

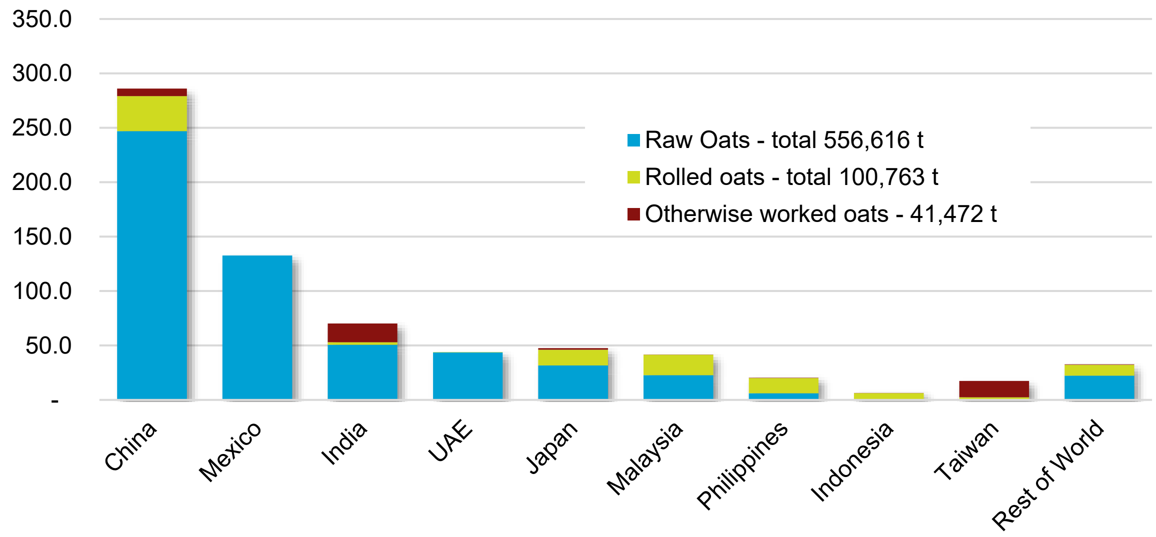


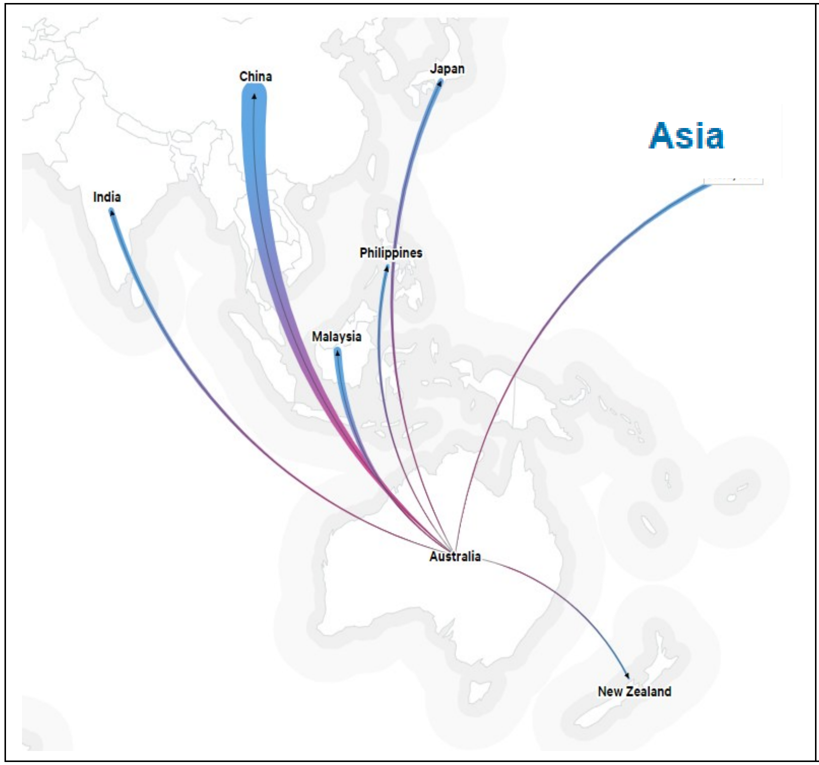
Figure 20. Major markets for Western Australian raw and processed oat exports in 2022. Source ABS.

Global production and trade flows

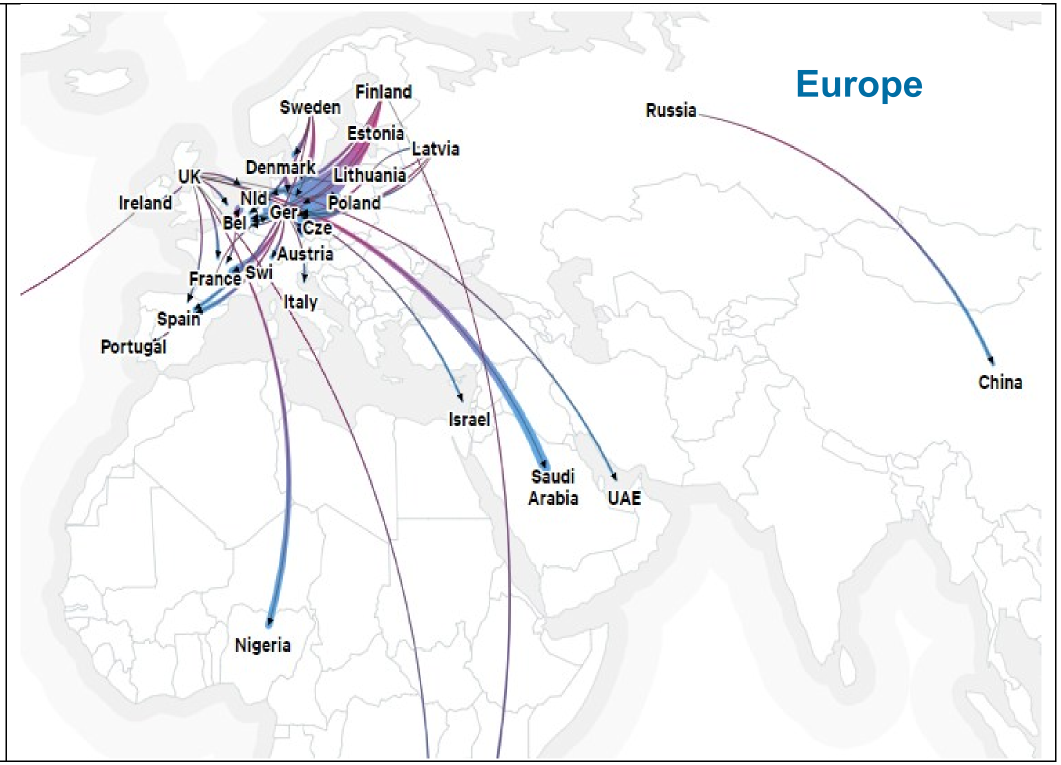
Global production of oats averaged 15.5 million tonnes from 2012-2021 and 16.34 million tonnes from 2019-2021. Global trade or exports of raw oats averaged around 3.5 million tonnes annually in from 2018 to 2022.

Canada dominates raw oat trade exporting about 1.7 million tonnes annually. Finland and Australia are the next biggest exporters each regularly exporting 200 to 400 thousand tonnes annually. Over 80% of Canada's exports of raw oats and oat products (combined) is sent solely to the USA. The USA is the world's largest importer of raw oats, followed by Germany and then China. See Figure 22 for more information of raw and processed oat imports by country and region.

Figure 21 shows the global flow of oat exports in 2022 (note: shows most but not all trade) from Australia, Canada, the European Union and Russia. The maps illustrate that trade is regionally concentrated, with the thicker lines showing the destinations of larger export volumes.



China
Japan
Asia
India
Philippines
Malaysia
Australia
New Zealand



Europe
Finland
Sweden
Russia
Estonia
Latvia
Denmark
Lithuania
UK
Ireland
Nld
Poland
Ger
Bel
Cze
Austria
France
Swi
Italy
Spain
Portugal
China
Israel
Saudi Arabia
UAE
Nigeria

Figure 21. Destination for oats exported in 2020 by the major global exporters showing a strong regional focus of trade flows in Asia, Europe and North America. Source Chatham House.

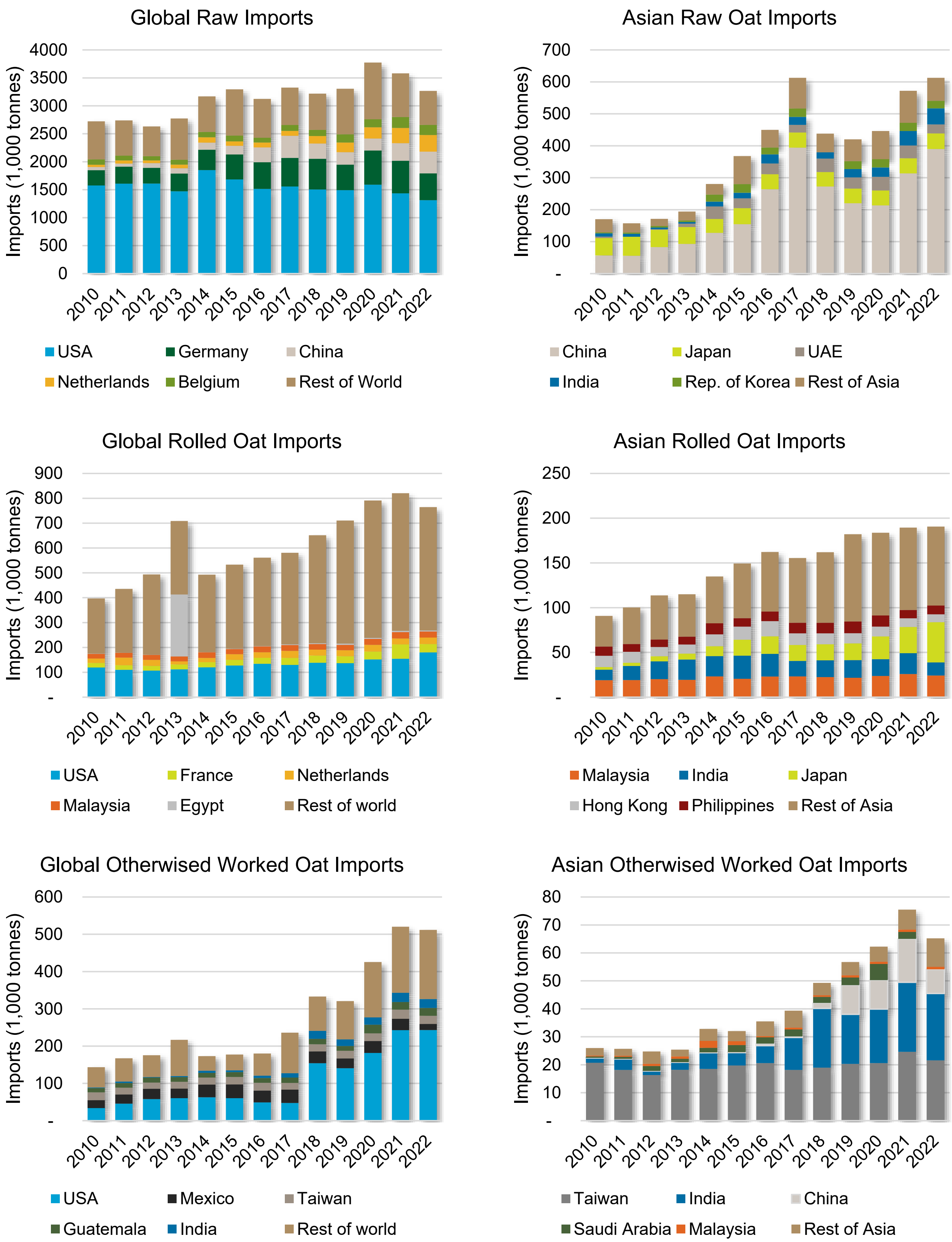


Figure 22. Global and Asian imports or raw and processed oats. Source UNComtrade.