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Prepared By: Zeljko Biki

Approved By: Levin Flake

Report Highlights:

After a record setting winter crop in marketing year (MY) 2022/23, Australia is expected to produce a more subdued, but still strong grain crop in MY 2023/24. Favorable conditions around the time of winter grain planting across most production regions of Australia bodes well for the establishment and early growth of wheat and barley in MY 2023/24. However, with predicted dry conditions in the coming months, production is expected to be down from the last three years of bumper winter crops. Wheat and barley exports are forecast to decline from a record volume of wheat, and near record for barley, estimated this year. Sorghum production and exports are forecast to decline in MY 2023/24 after making big gains in the previous two years, including record exports. Rice production in MY 2023/24 is forecast to grow by around one-third from the prior year. With the forecast production recovery, Australia is expected to return to becoming a net exporter of rice in MY 2023/24 for the first time since MY 2017/18.

EXECUTIVE SUMMARY

After a record setting winter crop in marketing year (MY) 2022/23, Australia is expected to produce a more subdued, but still strong grain crop in MY 2023/24. Another favorable set of conditions around the time of winter grain planting across most production regions of Australia bodes well for the establishment and early growth of wheat and barley in MY 2023/24. However, production is expected to be down from the last three years of bumper winter crops. Planted area of winter grains is expected to be lower but the main impact is the forecast for below-average rains in the late autumn and winter months. The very good start to the season is expected to be tempered by these forecast drier-than-usual conditions so yields are expected to fall towards more typical levels from the particularly high yields over the last three years. Wheat and barley exports are set to decline in the forecast year from a historically high volume due to the forecast of reduced production.

Sorghum production is forecast to decline in MY 2023/24, after two successive years of big production. The forecast for drier-than-usual late autumn and winter months may impact on stored soil moisture levels in the lead up to the forecast year planting period. With this there is a more subdued forecast of planted area and yields for MY 2023/24 back to past average levels. Sorghum exports are also forecast to decline in MY 2023/24, but this is after an estimated record export program in MY 2022/23.

For MY 2023/24, rice production is forecast to expand by over one-third from the prior year, which was significantly disrupted by excessive rains at planting leaving some growers unable to plant their rice crops and some planting late. With plentiful irrigation water currently in storages, rice producers anticipate having ample water available at the commencement of planting the forecast crop (starting October 2023). In addition, it is anticipated that the severe disruptions impacting the MY 2022/23 planting will not repeat itself for the forecast year. Combined, these factors are expected to boost the planted area and production of rice in the forecast year. With the forecast production recovery, Australia is expected to revert back to becoming a net exporter of rice in MY 2023/24 for the first time since MY 2017/18.

WHEAT

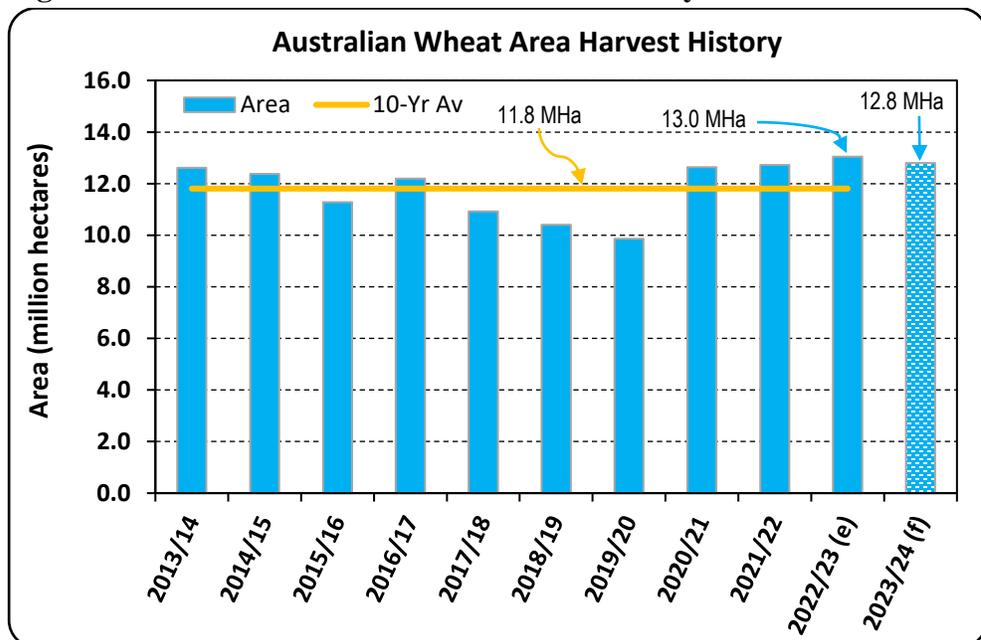
Production

FAS/Canberra forecasts wheat production to decline significantly to 29 million metric tons (MMT) in MY 2023/24, but if realized would still be a relatively large crop. This follows a record-breaking 39.2 MMT crop in MY 2022/23, and a 36.2 MMT crop in MY 2021/22. Soil moisture conditions in the wheat growing regions are generally good and there has been a very good start to autumn rains in most regions. A further encouragement for farmers is that nitrogenous fertilizer prices have fallen substantially since the peaks around planting for the MY 2022/23 season. Despite these positive factors, some negative factors will pressure production. The last two years of exceptional rains and excellent commodity prices had resulted in farmers planting practically every available hectare to winter crops. This included using areas that were earmarked for fallow and many foregoing their crop rotation plans to optimize planted

area of winter crops, mainly wheat, barley, and canola. This, combined with wheat prices falling by 18 percent from the recent peak in June 2022 and back toward longer-term average levels, is resulting in farmers deciding to reduce their planted area of wheat, and even more so of barley and canola. Further to this, the Australian Bureau of Meteorology is forecasting a far-below-average chance of achieving median rainfall in the coming months. If realized, this will impact crop yields and this expected dryness has been taken into consideration for the forecast yield and production. The current autumn rains and sub-surface moisture should carry the wheat crop well into the season, but the critical period for rainfall will be in the late winter and early spring months (August and September 2023) when crop moisture demand is at its highest. If there is average rainfall during this period, it should still result in yields at a little above average after the strong start.

The harvested area of wheat is forecast to decline by two percent in MY 2023/24 to 12.8 million hectares (Ha), which would still be the second largest planting over the last 10 years and eight percent above the previous 10-year average (see Figure 1). This fall is due to farmers having less suitable area available in their crop rotations after the previous two big-planted-area years. But farmers are expected to favor maintaining high wheat planted area at the expense of canola and barley area, particularly after a much steeper drop in canola prices since mid-2022. In addition, after such a heavy winter cropping program over the previous two seasons, farmers will be reintroducing fallow areas into their crop rotations which will reduce the available area for winter crop planting.

Figure 1 – Australian Wheat Area Harvest History

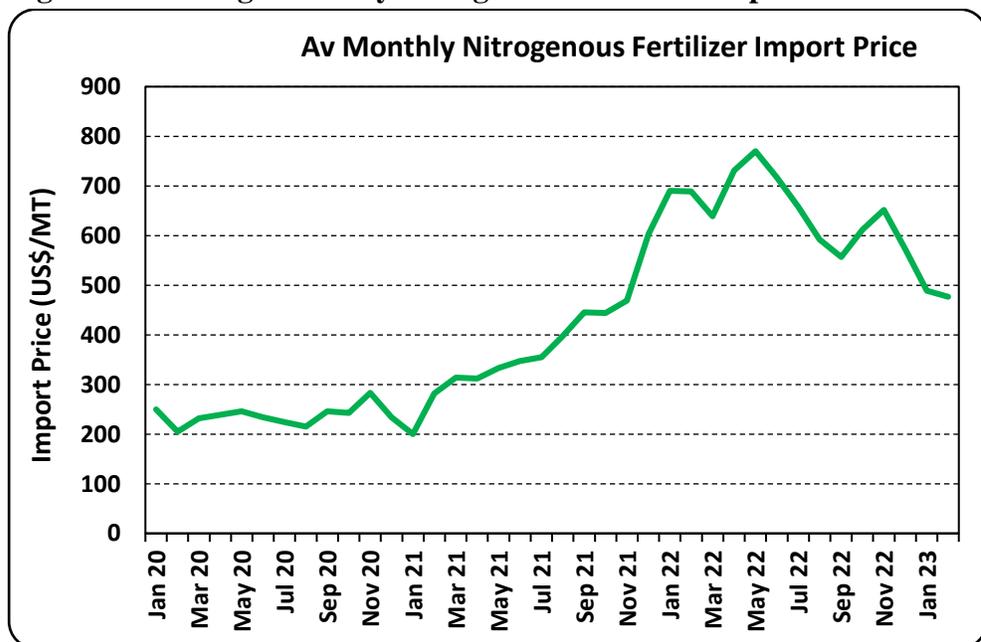


Source: PSD Online / FAS/Canberra

Notes: (e) = estimate, (f) = forecast

Wheat requires substantial nitrogen inputs, and a key positive for growers is that the price of imported nitrogen-based fertilizers has fallen from the peak of US\$770 per metric tonne (MT) in May 2022, to below US\$500 at the start of 2023 (see Figure 2). The big spike in prices was attributed to the rising energy costs which commenced in 2021 and was further exacerbated by the Russian invasion of Ukraine war and also the restriction of supply from China in 2021. The prices are still near double those in 2020 prior to these impacts, but there is scope for some further decrease in prices during the planting period and for subsequent applications during the growing period.

Figure 2 – Average Monthly Nitrogenous Fertilizer Import Price Trend



Source: Australian Bureau of Statistics

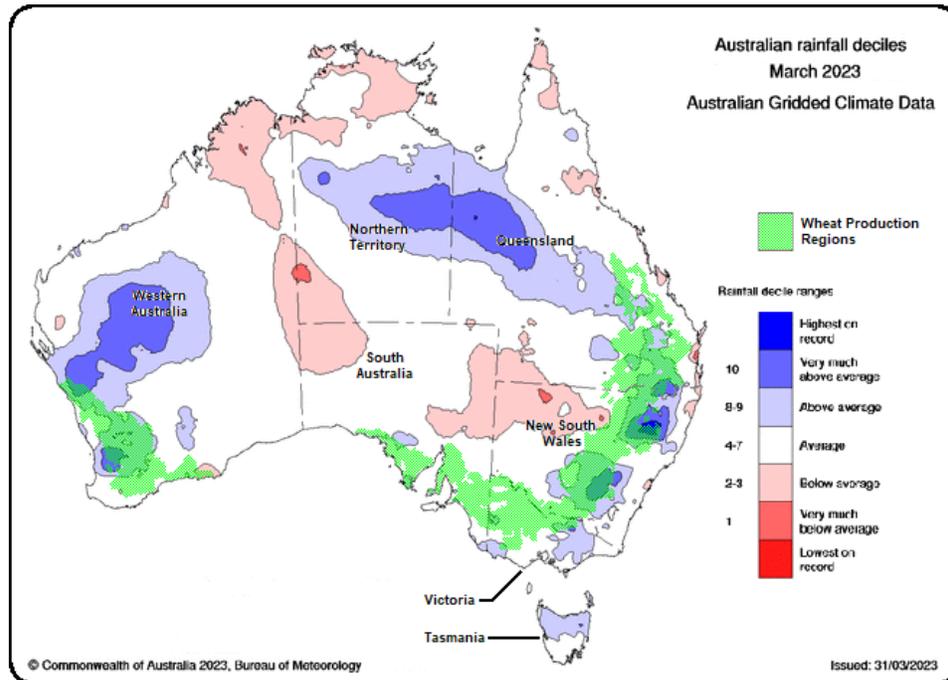
Wheat yields are forecast to be 2.27 MT/Ha, three percent above the previous 10-year average, but this is a 24-percent decline from the estimated MY 2022/23 season record of 3.0 MT/Ha. This forecast decline is due to expected dryness in the coming months. However, the still above-average yield forecast is based on good early rainfalls in the autumn, and generally good sub-surface soil moisture available which mostly remains from the abundant rains experienced in the previous winter cropping season.

Rainfalls from mid to late March across the main wheat growing regions have been very good (see Figure 3) and have continued in early April 2023. This is a very good start to autumn and the wheat planting period will provide confidence to growers of a successful crop emergence this season.

Wheat is typically planted from April to June and harvested from October to December. The more northern production areas generally have earlier planting and earlier harvest compared to the more temperate climate in the southern areas. Most of the wheat growing regions have average to above-average soil moisture this year at the early stages of planting, especially in Western Australia and the

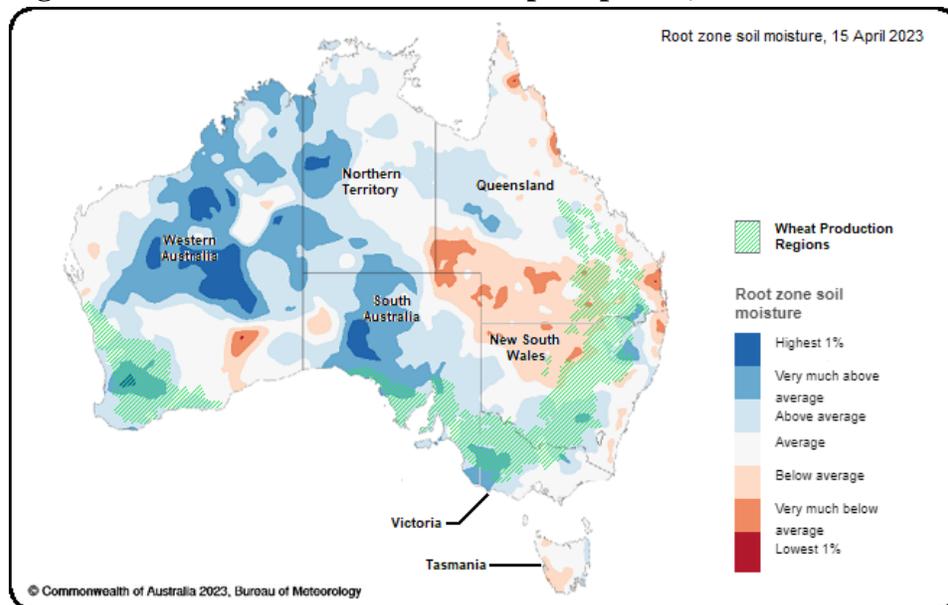
southern parts of the eastern states (see Figure 4). This will provide wheat growers confidence that in conjunction with the good autumn rains that the crop will not only germinate but will have ample soil moisture to establish well, even if there were to be limited rains in late autumn and early winter as is forecast to be the case by the Australian Bureau of Meteorology (see Figure 5).

Figure 3 – Australia Rainfall Deciles – March 2023



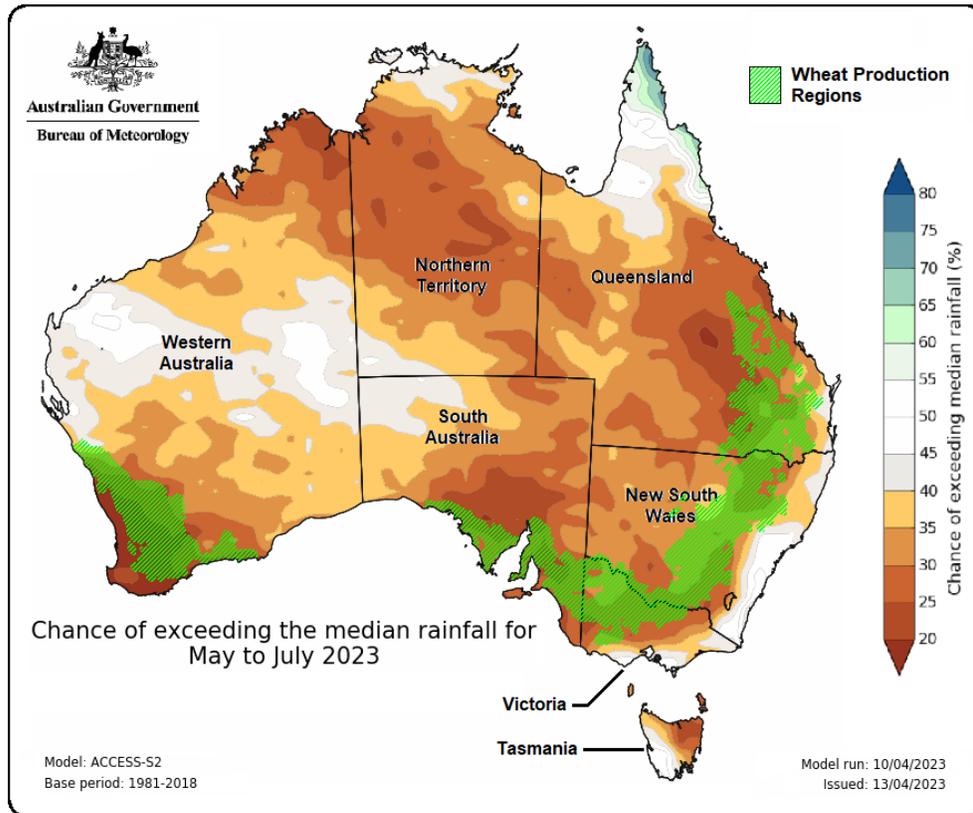
Source: Australian Bureau of Meteorology / FAS/Canberra

Figure 4 – Australia Soil Moisture Map – April 15, 2023



Source: Australian Bureau of Meteorology / FAS/Canberra

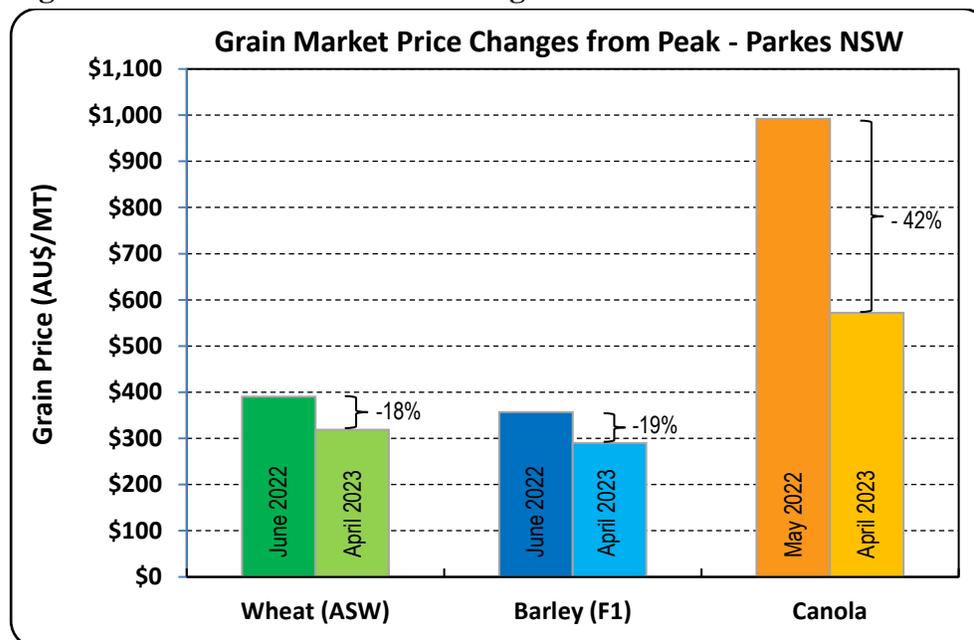
Figure 5 - Australia Rainfall Forecast Map – May to July 2023



Source: Australian Bureau of Meteorology / FAS/Canberra

Wheat prices have fallen by around 18 percent from the recent peak in June 2022 of around AU\$390 (US\$260) per metric ton (MT), to now be at around AU\$320 (US\$215) per MT (see Figure 6). The current wheat price is still firm which will still encourage a very high planting area. Wheat is the most preferred winter crop with the planted area typically three to four-fold higher than that for barley and canola. With canola prices falling by over 40 percent and barley by a similar rate to that of wheat, the greater declines in planted area are expected to be seen for canola and barley rather than wheat in the forecast year.

Figure 6 – Grain Market Price Changes from Recent Peak – at Parkes NSW



Source: *The Land newspaper*

Wheat production for MY 2022/23 is estimated to have reached a new record of 39.2 MMT after two successive years of records in MY 2020/21 of 33.3 MMT and for MY 2021/22 of 36.2 MMT. The MY 2022/23 estimate is in line with the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) estimate, finishing well above earlier expectations at the commencement of harvest. The three successive years of record-busting wheat production have been extraordinary and established primarily on the back of three successive years of unusually high rainfall across most of Australia’s wheat producing regions. In addition, the higher-than-usual price for wheat encouraged high planted area and high input use to optimize yields.

Consumption

FAS/Canberra’s forecast for Australian wheat consumption in MY 2023/24 is 8.5 MMT, in line with the MY 2022/23 estimate. There is no change in livestock feed consumption anticipated and wheat utilized for milling is relatively stable from year to year.

The majority of the wheat demand by the livestock industry is for beef cattle feedlots, and to a lesser degree the dairy industry, along with swine and poultry industries. Weather conditions for pasture production have generally been very positive over recent years which has continued into the current autumn period and fodder reserves are high. However, the forecast rainfall for the coming May to July 2023 period (see Figure 4) is for drier conditions which is cause for some concern. But the rainfall outcomes in the spring (September to November) in the temperate regions in the southern states and the wet season period (December 2023 to April 2024) for the sub-tropical and tropical regions of Queensland and the Northern Territory will dictate the demand for feed grains by the beef and dairy

industries. At this stage it is too early to have any indication as to the likely conditions during these critical periods which could subsequently change livestock feed demand for the remainder of the forecast year. Feedlot capacity in general is rapidly expanding in Australia, which indicates that in the medium to long term there will be a rise in wheat feed consumption, but feedlot numbers are not expected to be vastly different in the forecast year.

Domestic consumption is expected to remain unchanged from recent past years. However, the Australian government forecasts a significant increase of immigration to Australia in 2023 and 2024, which is expected to increase the population and may subsequently impact on milled flour demand. The main impact on demand from the growth in immigration is likely to be evident in MY 2024/25.

FAS/Canberra's wheat consumption estimate for MY 2022/23 remains unchanged at 8.5 MMT and is in line with the official USDA estimate.

Exports

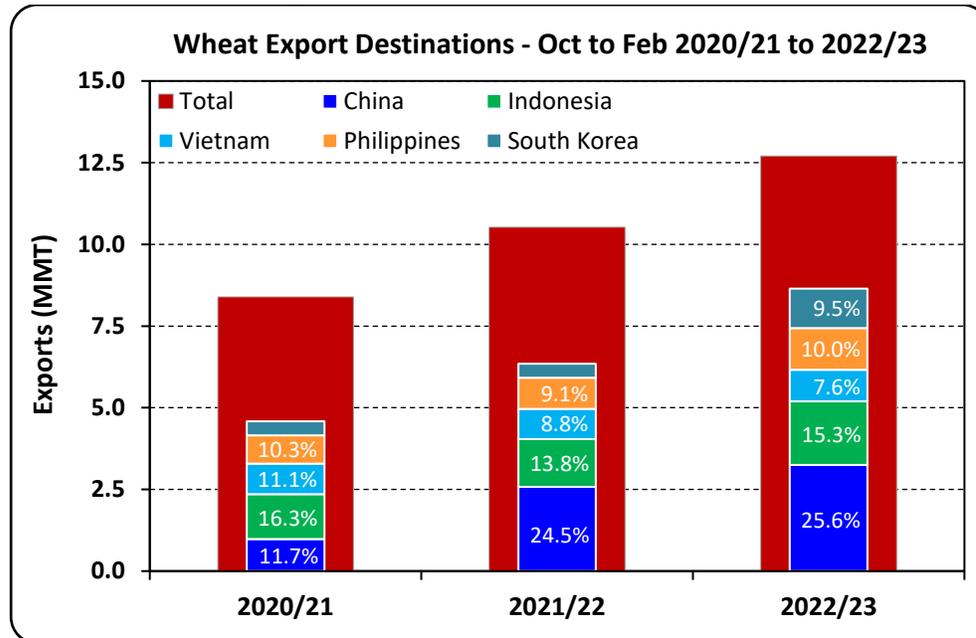
FAS/Canberra's forecast for wheat exports for MY 2023/24 is 23 MMT, a 7-MMT decline from the record MY 2022/23 estimate of 30 MMT. Despite this large fall, if realized this would still be the fifth largest wheat export program on record. This expected drop in exports is primarily driven by the forecast 10.2-MMT decline in production. Exports are not expected to fall by as much as production due to the higher than usual carry-in stocks, some of which are expected to be used due to the anticipation of continued firm demand for exports.

Australia has for many years had over 50 wheat export destinations and of these there are five consistently big customers that in recent years have accounted for 55 to 70 percent of all exports. Over the last two years Australia's export volumes have increased to all of these top five export destinations.

China is by far the largest export destination by volume and has grown rapidly over the last two years. So far for MY 2022/23 (October 2022 to February 2023), 26 percent of overall wheat exports have been to China, accounting for 3.2 MMT of the 12.7 MMT exported so far (see Figure 7). In the same period for MY 2021/22 wheat exports to China were 2.6 MMT and in the prior year only 1 MMT, and far lower in earlier years.

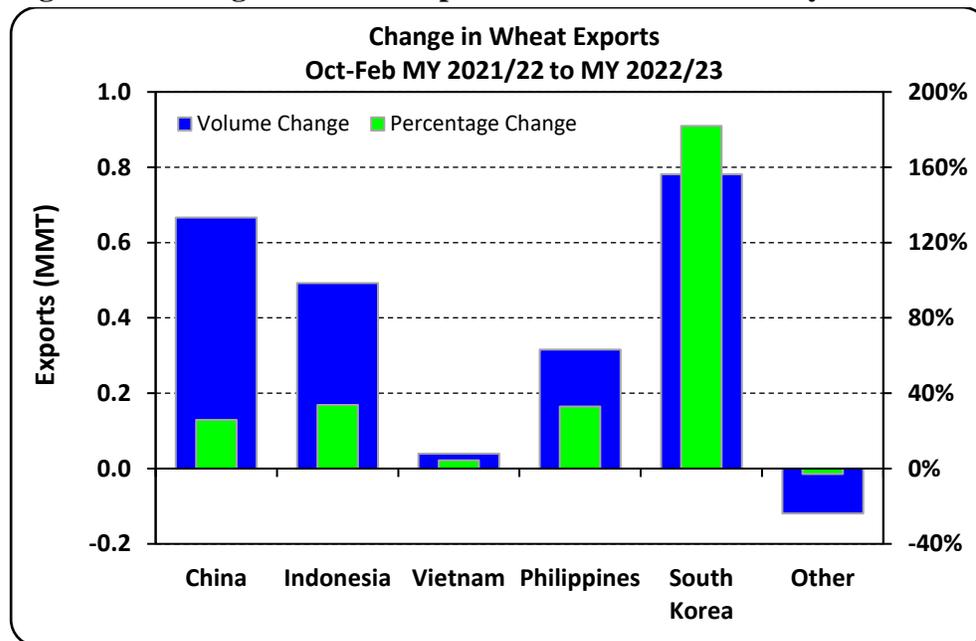
So far for MY 2022/23, exports to South Korea have had the largest growth by volume, up almost 800,000 MT and a percentage increase of over 180 percent from the same period in the previous year (see Figure 8). Indonesia and Philippines also showed strong growth as wheat destinations for Australia.

Figure 7 – Wheat Export Destinations – October to February 2020/21 to 2022/23



Source: Australian Bureau of Statistics

Figure 8 – Change in Wheat Exports – October to February 2021/22 to 2022/23



Source: Australian Bureau of Statistics

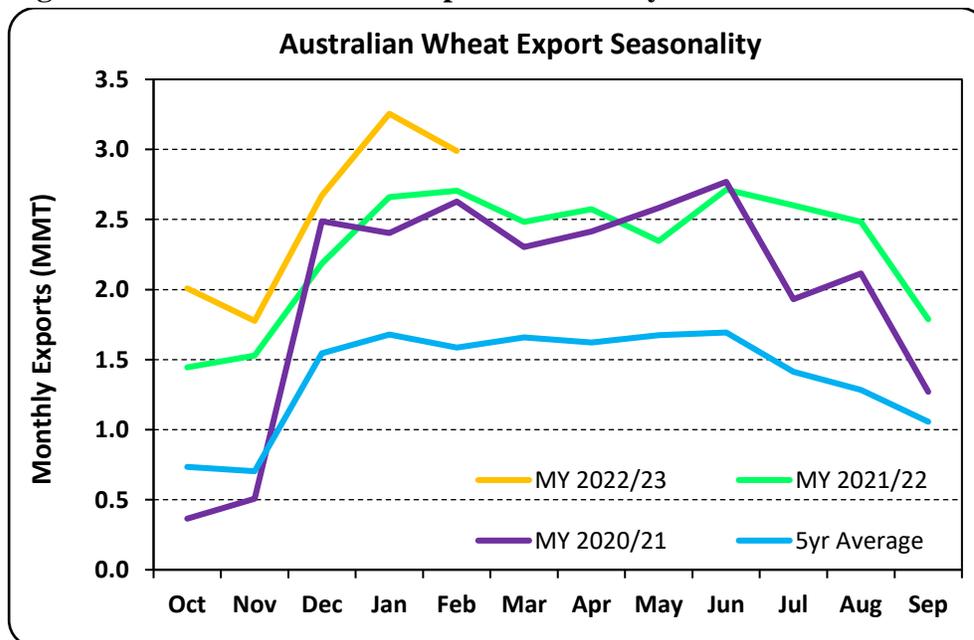
UK-AU FTA

The United Kingdom (UK) and Australian parliaments have accepted the Free Trade Agreement between the nations and will come into force in the coming months, but a commencement date is yet to be established.

After the FTA is formalized the Australian grain industries are expected to receive immediate tariff-free quota for 80,000 MT of wheat and 7,000 MT of barley to the UK, and after four years tariffs will be eliminated. Although this is welcomed by the Australian grain industries and provides a further significant market access option, it is anticipated that Australia will continue to focus its trade mainly to its nearby Asian markets.

FAS/Canberra’s wheat export estimate for MY 2022/23 is upward revised to 30 MMT and is 1.5 MMT higher than the official USDA estimate of 28.5 MMT. If realized, this would by far set a new wheat export record for Australia with the second largest result being 27.5 MMT in the previous year. For the five months from October 2022 to February 2023, Australia has exported 12.7 MMT, well above that for the previous record export year (see Figure 9),and based on usual seasonality trends and record crop production is expected to meet the new record estimate. Australia has been an important trader of wheat on the world market for many years but with these record export volumes is now in the top three world wheat exporters.

Figure 9 – Australian Wheat Export Seasonality

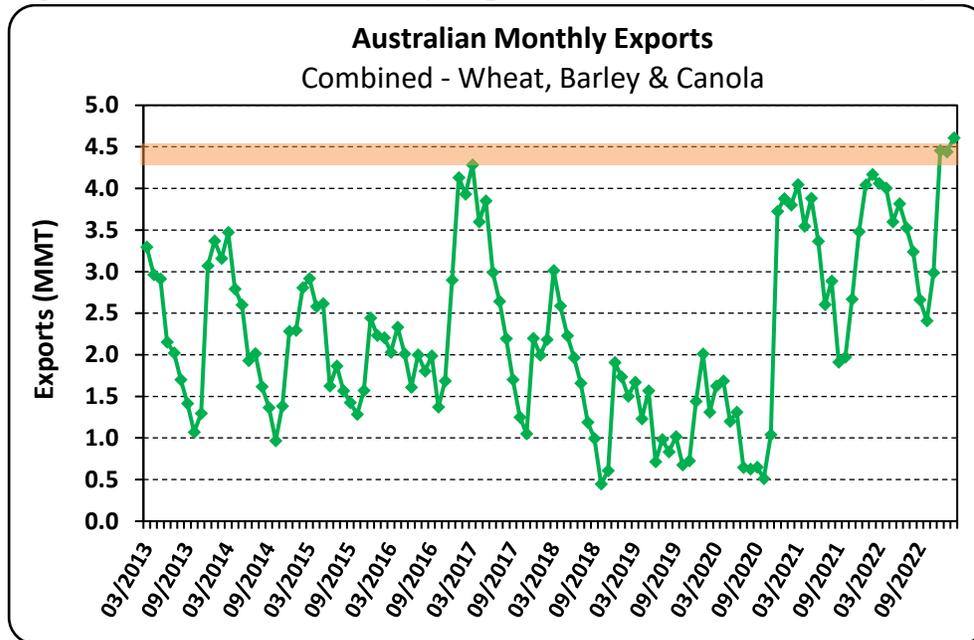


Source: Australian Bureau of Statistics

Australian wheat, barley, and canola typically are exported through the same ports and at similar times. Although typically Australian export and port capacity is more than sufficient to meet export requirements, the combination of strong global demand and record production of wheat and canola in MY 2022/23 (from the prior year), along with near record production of barley, is resulting in sales pushing logistical export capacity to its limits. In the past, between 4-4.5 MMT of monthly exports of these crops was the peak that could be shipped (see Figure 10), but in February this level had been

surpassed and reached 4.6 MMT. The main logistical bottleneck has been the transporting of grains from Western Australian regional receival points to port, and there has been substantial investments in upgrading some of these points over the last year or two. The benefit of this investment is now beginning to be evident. The main grains receival handler in Western Australia reports that further upgrades are planned which will support future growth in grains exports.

Figure 10 – Australian Monthly Exports – Combined Wheat, Barley and Canola



Source: Australian Bureau of Statistics

Imports

FAS/Canberra’s wheat import estimate for MY 2022/23 remains low at 200,000 MT and this level is also forecast for MY 2023/24. Imports primarily consist of wheat products and pasta and volumes for this purpose have been relatively stable in Australia.

Stocks

Australia’s ending stocks of wheat in MY 2023/24 are anticipated to decline with lower anticipated production, expected firm global demand, and strong export momentum carrying into the forecast year from MY 2022/23. FAS/Canberra forecasts MY 2023/24 ending stocks to decline from 4.3 MMT to 2 MMT.

Record-busting wheat production along with estimated record exports for MY 2022/23, is pushing the limits of port export capacity which is anticipated to result in a rise in ending stocks for this year. With lower but still firm world wheat prices, it is anticipated that the high monthly export momentum will carry through into MY 2023/24, resulting in a reduction in wheat inventory in the forecast year.

Production, Supply, and Distribution of Wheat

Wheat Market Year Begins	2021/2022		2022/2023		2023/2024	
	Oct 2021		Oct 2022		Oct 2023	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Australia						
Area Harvested (1000 HA)	12728	12728	13000	13045	0	12800
Beginning Stocks (1000 MT)	3024	3024	3434	3459	0	4349
Production (1000 MT)	36237	36237	39000	39190	0	29000
MY Imports (1000 MT)	210	210	200	200	0	200
TY Imports (1000 MT)	196	196	200	200	0	200
Total Supply (1000 MT)	39471	39471	42634	42849	0	33549
MY Exports (1000 MT)	27512	27512	28500	30000	0	23000
TY Exports (1000 MT)	25958	25958	30000	30500	0	24000
Feed and Residual (1000 MT)	5000	5000	5000	5000	0	5000
FSI Consumption (1000 MT)	3525	3500	3500	3500	0	3500
Total Consumption (1000 MT)	8525	8500	8500	8500	0	8500
Ending Stocks (1000 MT)	3434	3459	5634	4349	0	2049
Total Distribution (1000 MT)	39471	39471	42634	42849	0	33549
Yield (MT/HA)	2.847	2.847	3	3.0042	0	2.2656

(1000 HA) ,(1000 MT) ,(MT/HA)

MY = Marketing Year, begins with the month listed at the top of each column

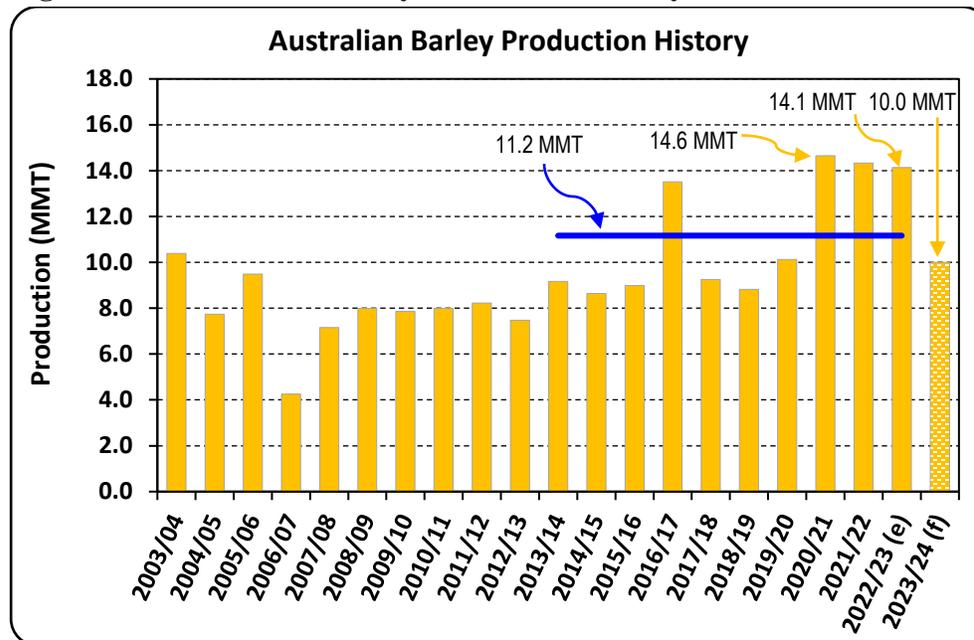
TY = Trade Year, which for Wheat begins in July for all countries. TY 2023/2024 = July 2023 - June 2024

BARLEY

Production

FAS/Canberra forecasts Australia's MY 2023/24 barley production at 10 MMT, 4.1 MMT below the near record MY 2022/23 crop of 14.1 MMT. The forecast production would still be a relatively large crop but remain below the previous 10-year average after the last three seasons produced the three biggest crops on record. (see Figure 11). The lower production is related to a forecast reduction in planted area. The lower forecast is also due to the expectation of lower yields, but which still would be seven percent above the previous 10-year average yield. A significant positive for MY 2023/24 is that at the start of planting in April 2023 there have been very good autumn rains, and sub-surface soil moisture across most of the barley cropping areas is also very good. This is expected to result in very good crop establishment. However, the key reason for the lower barley yield forecast is the expected dry conditions for the May to July 2023 period.

Figure 11 – Australian Barley Production History



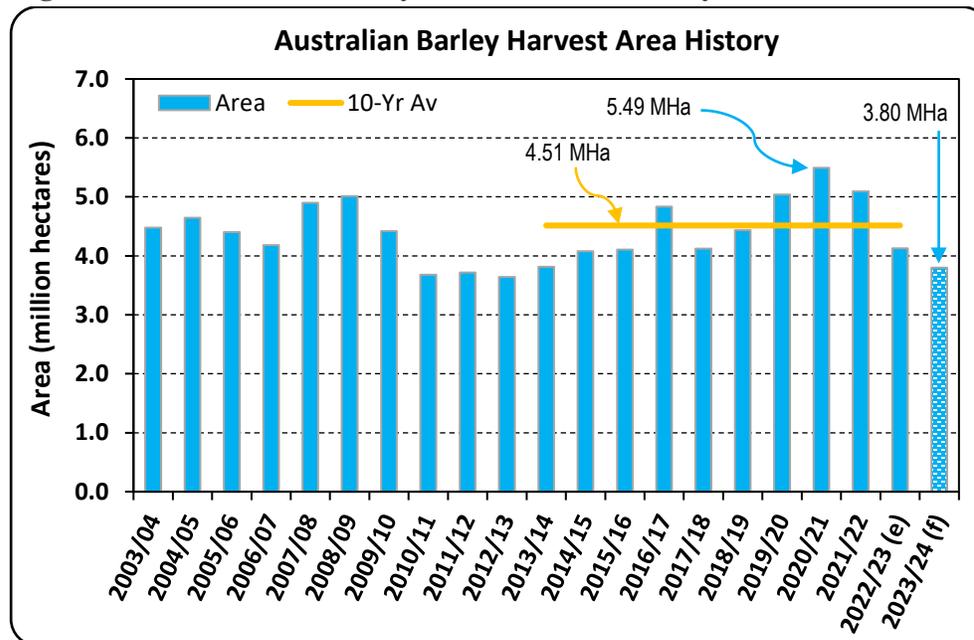
Source: PSD Online / FAS/Canberra

Notes: (e) = estimate, (f) = forecast

Similar to wheat, barley is typically planted from April to June and harvested from October to December. Those in more northern areas generally have earlier planting and earlier harvest compared to the more temperate climate areas in the south. As mentioned earlier most of the winter cropping regions have had average to above-average rainfall in March 2023 before the start of planting (see Figure 3) but has also continued into early April. The sub-surface soil moisture at the start of planting this year is also generally at average or above (see Figure 4) enabling autumn rains to link up with the sub surface soil moisture. This will provide great conditions for successful crop establishment and early to mid-season growth, based on the amount of sub-surface moisture available. As mentioned earlier for wheat, the strong start to the season will carry the barley crop well into the season, but sufficient rains in the late winter and early spring months when crop moisture demands are at their highest will be important to achieving the forecast yield.

Barley harvested area is forecast to decline in MY 2023/24 by eight percent which equates to 16 percent below the previous 10-year average (see Figure 12). As previously mentioned, this is mainly due to farmers having less suitable area available in their crop rotations after the previous two years of extremely high planted area. Also, farmers are expected to favor maintaining high wheat planted area at the expense of canola and barley area. After such a heavy winter cropping program over the previous two seasons, farmers will be reintroducing fallow areas into their crop rotations which will reduce the available area for winter crop planting. There has also been a general trend over recent years of winter crop producers substituting barley area for canola, contributing to the below average forecast barley planted area.

Figure 12 – Australian Barley Harvest Area History



Source: PSD Online / FAS/Canberra

Notes: (e) = estimate, (f) = forecast

Barley production for MY 2022/23 is estimated to have reached 14.1 MMT, the third successive year of very high production, and the third highest on record after the previous two slightly larger crops. The MY 2022/23 estimate is in line with the ABARES estimate, and similar to wheat, barley production finished well above previous expectations.

Consumption

FAS/Canberra’s barley consumption forecast for MY 2023/24 is 6.0 MMT, the same as the estimate for MY 2022/23. Domestic consumption for malting purposes, which includes malt for export, is relatively stable with livestock feed consumption being the primary variant from year to year. Malt exports have steadily risen over the last five years from around 500,000 MT a year and have bounced around from 630,000 MT to 950,000 MT over the last three years. However, malt production in Australia is likely to be a little more stable from year to year and these variances are relatively small compared to the overall annual consumption of barley.

The livestock industries have generally had very good rains from 2020 to 2022 and this has continued in early 2023, which has kept on-farm supplementary feeding to a minimum. With the beef cattle sector in a herd rebuild phase, the number of cattle on feed at feedlots has only slowly been rebuilding and this is expected to continue. This is anticipated to see a modest rise in demand for feed grains from the beef feedlot sector in MY 2023/24. But this is countered to a large extent by the decreasing dairy herd (much of which is due to a switch to beef production) and associated lowering of feed demand. The majority of

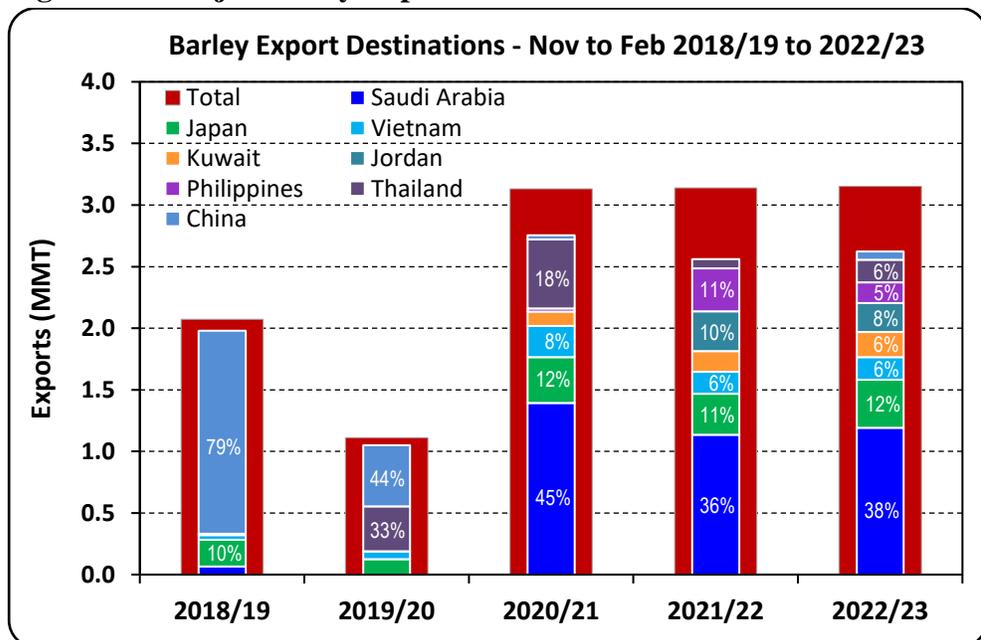
beef feedlots have now moved away from using sorghum towards white grains (mainly wheat and barley) in their rations which involved equipment upgrades. The volume of barley (and wheat) consumed in the livestock sector mainly varies with the volumes used by the beef feedlot and dairy sectors which can change significantly with drought. The poultry and pork industries are significant users of feed grain, but their consumption volumes are relatively stable from year to year.

Exports

Australia’s barley exports for MY 2023/24 are estimated at 5 MMT, 3 MMT below the estimate for MY 2022/23 of 8 MMT. This is a large drop, and this reduction is driven by the forecast 4.1-MMT decline in barley production, while domestic consumption is forecast to remain stable. Global demand for Australian barley, however, is expected to remain firm and barley ending stocks are expected to decline in order to meet the forecast export demand.

While overall exports are expected to be down, there may also be a shift in destinations if China returns as a market. The Chinese Ministry of Commerce announced on April 14, 2023 that it will commence a three to four month review of its anti-dumping and anti-subsidy claims against imported Australian barley. This announcement occurred as the World Trade Organization (WTO) was due to hand down a finding over the dispute. In lieu of this review, Australia has agreed to temporarily suspend its case at the WTO over these import duties imposed by China.

Figure 13 – Major Barley Export Destinations – Nov to Feb MY 2018/19 to 2022/23



Source: Australia Bureau of Statistics

In the three marketing years preceding China imposing import tariffs on Australian barley the value of the trade averaged US\$909 million per year with an average trade volume of 4.4 MMT. But in the three

years from MY 2020/21 to MY 2022/23 (November to February trading period) barley exports have increased and diversified substantially since China imposed the duties (see Figure 13). Prior to this China for many years was by far the dominant export destination for Australian barley. Over the last three years Saudi Arabia has become the major export destination for Australian barley, but far less dominant than China was previously. Importantly for Australia - Vietnam, Kuwait, Jordan and Philippines - have become significant barley export destinations over the last three years as Australia has successfully pivoted its barley trade away from China.

FAS/Canberra's barley export estimate for MY 2022/23 is 8 MMT and in line with the official USDA estimate. If realized, this would be the third largest barley export program for Australia, marginally behind the previous two marketing years. Early season barley exports in MY 2022/23 have started extremely strong, reaching 3.15 MMT between November 2022 and February 2023 and this is almost identical to the same period in MY 2021/22 which achieved full year exports of 8 MMT. With this trend, exports so far are on track to reach the MY 2022/23 estimate of 8 MMT.

Stocks

Australia's ending stocks of barley in MY 2022/23 are expected to decline to 2 MMT from 3 MMT as a result of the forecast 4.1-MMT decline in barley production, stable domestic demand, and anticipated continued firm world demand for barley.

Production, Supply, and Distribution of Barley

Barley Market Year Begins	2021/2022		2022/2023		2023/2024	
	Nov 2021		Nov 2022		Nov 2023	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	5095	4417	4100	4127	0	3800
Beginning Stocks (1000 MT)	2518	2518	2848	2848	0	2985
Production (1000 MT)	14337	14337	14100	14137	0	10000
MY Imports (1000 MT)	0	0	0	0	0	0
TY Imports (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	16855	16855	16948	16985	0	12985
MY Exports (1000 MT)	8007	8007	8000	8000	0	5000
TY Exports (1000 MT)	8233	8233	8000	8000	0	5000
Feed and Residual (1000 MT)	4500	4500	4500	4500	0	4500
FSI Consumption (1000 MT)	1500	1500	1500	1500	0	1500
Total Consumption (1000 MT)	6000	6000	6000	6000	0	6000
Ending Stocks (1000 MT)	2848	2848	2948	2985	0	1985
Total Distribution (1000 MT)	16855	16855	16948	16985	0	12985
Yield (MT/HA)	2.8139	3.2459	3.439	3.4255	0	2.6316

(1000 HA) ,(1000 MT) ,(MT/HA)

MY = Marketing Year, begins with the month listed at the top of each column

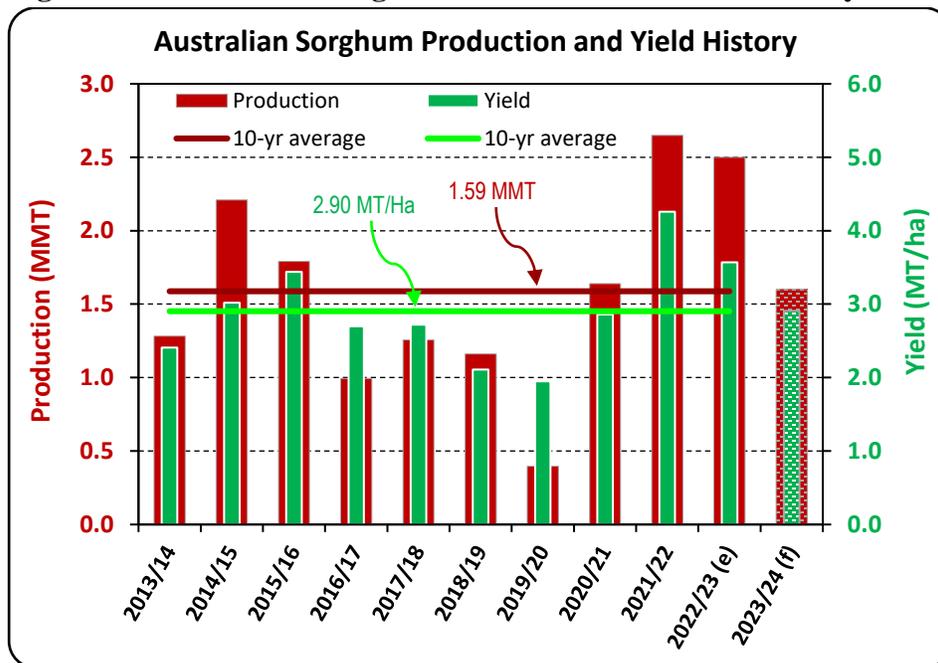
TY = Trade Year, which for Barley begins in October for all countries. TY 2023/2024 = October 2023 - September 2024

SORGHUM

Production

The FAS/Canberra's sorghum production forecast for MY 2023/24 is 1.6 MMT, down 900,000 MT from the MY 2022/23 estimate, but in line with the previous 10-year average (see Figure 15). Harvested area is forecast at 550,000 hectares, down from an estimated 700,000 hectares in MY 2022/23. Yield is also expected to decline to around the 10-year average of 2.91 MT/Ha, down from a very strong estimated yield of 3.57 MT/Ha in MY 2022/23 (see Figure 14). These large forecast reductions are mainly due to MY 2022/23 being a particularly strong production season for most sorghum growing regions, rather than any significant concerns in relation to weather, market prices, or input costs increases at this early stage. However, if the expected dry conditions over the next few months continue into spring this could result in low sub-surface soil moisture at planting and have a more negative impact on planted area than forecast (Note: The MY 2023/24 crop will mostly be planted from October to December 2023 and harvested from March to June 2024).

Figure 14 – Australian Sorghum Production and Yield History



Source: PSD Online / FAS/Canberra

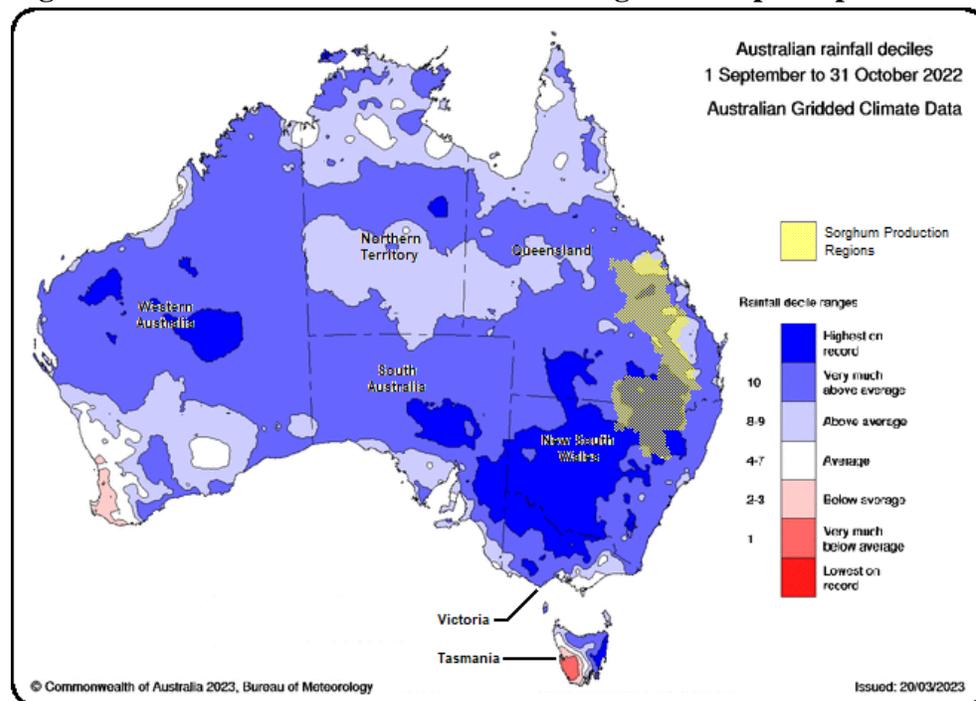
Note: (e) = estimate, (f) = forecast

Queensland typically produces over two-thirds of Australia's overall sorghum production, much of which is in southern Queensland. Around one-third of the national sorghum crop is produced in northern New South Wales. In the main producing regions of southern Queensland and northern New South Wales the primary planting period is from October to December, with harvest generally between March and June. The northern parts of the sorghum growing regions of central Queensland have a warmer climate which allows a wider planting window, typically from September to as late as February which

gives this region a greater capacity to be more opportunistic with their planting program and improving their chances of a successful crop outcome.

The FAS/Canberra sorghum production estimate for MY 2022/23 is at 2.5 MMT, the same as the official USDA and the ABARES estimate. If realized, this would be the fourth largest sorghum crop on record, with the two largest being 13 and 14 years ago and the third largest in MY 2020/21, which had a record yield. The majority of the sorghum-producing areas had ample sub-surface soil moisture at planting and in fact there was too much spring rain (see Figure 15), which for many, delayed planting. For those in the major sorghum growing areas of southern Queensland and northern New South Wales, that were able to plant in late September and early to mid-October, they had some early in-crop rains and have fared very well with very good yields for this year’s crop which has just been harvested. For those that planted in late October, although there was ample sub-surface moisture, there was little in-crop rain from December 2022 to February 2023 (see Figure 16), so their yields are around average, and these crops are currently being harvested. Sorghum crops in the most northern growing regions of central Queensland are planted later and their harvest is expected mainly in June 2023. These crops are reported to be looking very good after ample wet season rains (mainly January to March 2023).

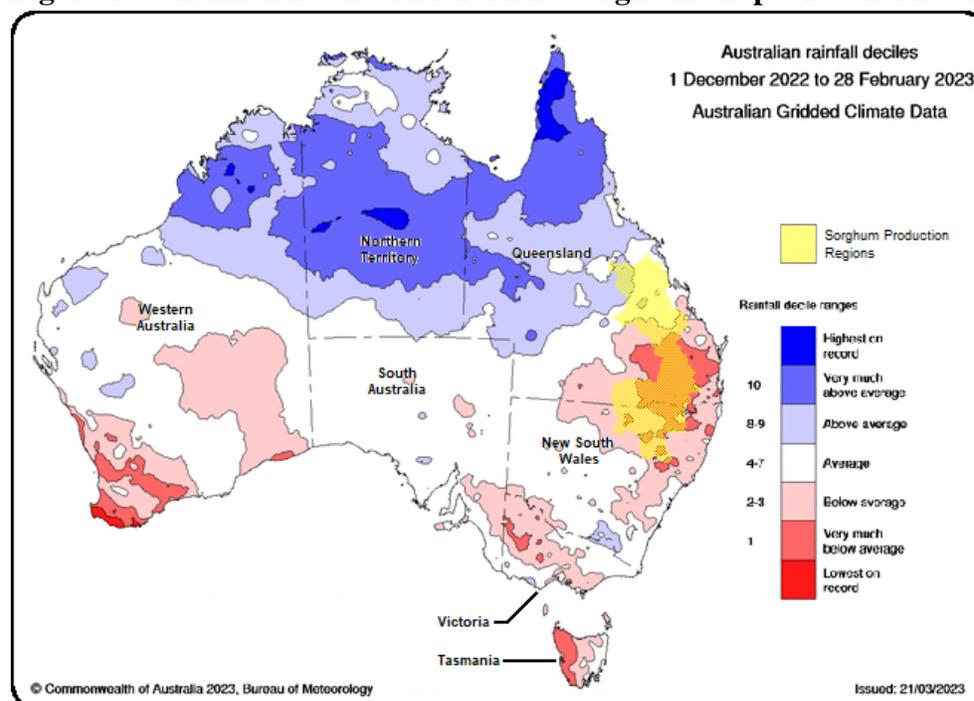
Figure 15 – Rainfall Deciles MY 2022/23 Sorghum Crop – Sep to Oct 2022



Source: Australian Bureau of Meteorology / FAS/Canberra

Note: MY 2022/23 crop growth period is mainly October 2022 to March 2023

Figure 16 – Rainfall Deciles MY 2022/23 Sorghum Crop – Dec 2022 to Feb 2023



Source: Australian Bureau of Meteorology / FAS/Canberra

Note: MY 2022/23 crop growth period is mainly October 2022 to March 2023

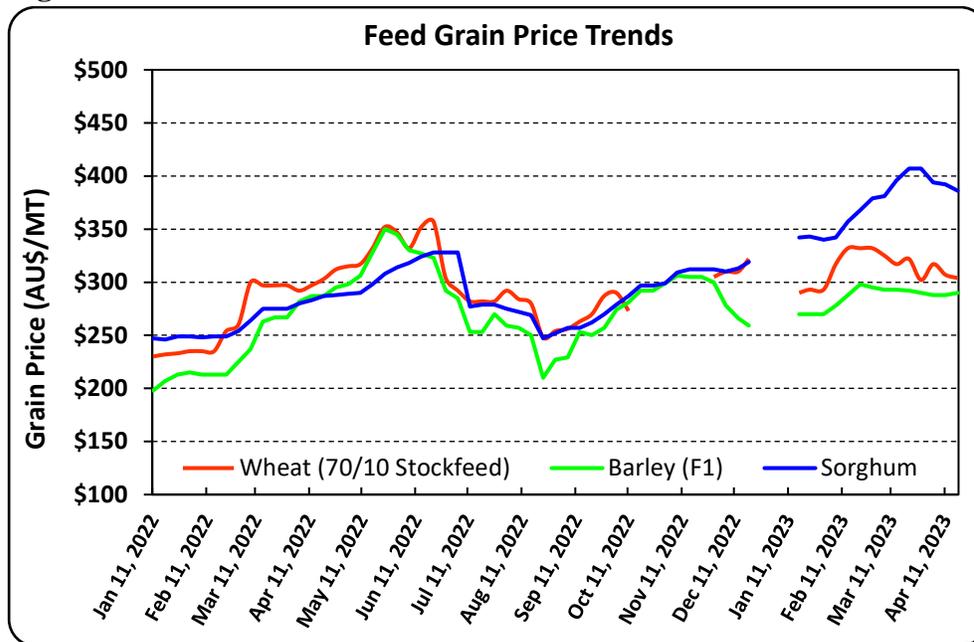
Consumption

FAS/Canberra forecasts sorghum consumption in MY 2023/24 at 310,000 MT, which is in line with the MY 2022/23 estimate. Domestic feed consumption of sorghum in Australia has fallen from 2.2 MMT reached 15 years ago to now be at around 300,000 MT. This has been driven by a decline in demand mainly from the beef feedlot sector. This reduced demand has been driven by:

- Overall improving nutritional ration formulation by feedlots which has resulted in a shift towards higher quality white grains (wheat and barley).
- Previous droughts where sorghum supply was very low or exhausted, while white grains were able to be sourced. This resulted in feedlots who were still using sorghum to install equipment for the use of white grains. Sorghum milling is much harsher on equipment than white grains and after switching to using white grains, feedlots are highly unlikely to revert back to using sorghum.
- Sorghum is generally a nutritionally lower quality feed for livestock compared to white grains. It would need to be priced consistently and substantially lower than white grains to encourage feedlots to convert back to using sorghum. Over recent years sorghum prices have been tracking near the price of feed wheat and feed barley and in recent months has been priced at a substantial premium (see Figure 17).

A further but much smaller factor for the decline in sorghum consumption is that the only past industrial consumer of sorghum, a facility for the production of ethanol, has been mothballed since September 2020. There is no expectation that this facility will be recommissioned in the short to medium term as sorghum prices would need to fall considerably for the production of fuel ethanol to be viable. The facility in the past has consumed around 150,000 MT of sorghum per year.

Figure 17 – Feed Grain Price Trends



Source: *The Land newspaper*

The MY 2022/23 sorghum consumption estimate of 310,000 MT is unchanged from the official USDA estimate. This is almost entirely for livestock feed with none for industrial consumption and 10,000 MT for seed.

Exports

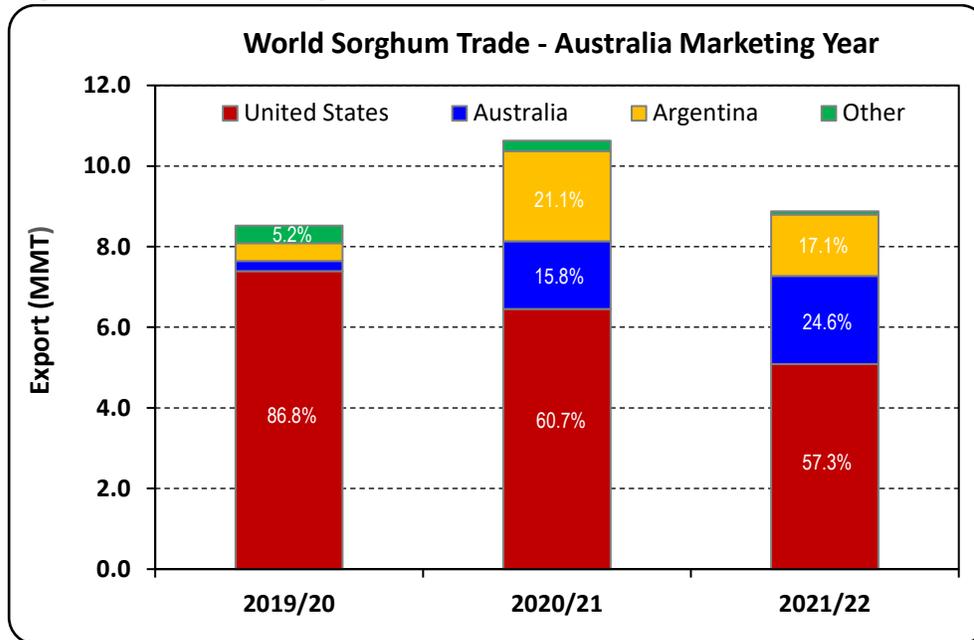
The FAS/Canberra sorghum export forecast for MY 2023/24 is 1.5 MMT, 32-percent lower than the MY 2022/23 estimate of 2.2 MMT (which if realized would be a record). The lower export forecast is largely due to the expectation of an average production crop of 1.6 MMT in the forecast year in comparison to the MY 2022/23 estimate of 2.5 MMT. China has for many years been the primary buyer of Australian sorghum and this is expected to remain the case in the forecast year.

The United States is consistently the major world exporter of sorghum typically accounting for well over three-quarters of world trade. Australia along with Argentina are the only other nations which contribute significantly to world exports of sorghum (see Figure 18). With the expectation of a big sorghum export program in MY 2022/23 Australia is expected to maintain its position as a strong contributor to the

world trade. However, with a significantly lower export program forecast for MY 2023/24 its importance to world trade is anticipated to diminish.

With the domestic livestock industries mostly turned towards the use of wheat and barley over the last 15 years, the industry now exports the vast majority of the sorghum that it produces.

Figure 18 – World Sorghum Trade – Australia MY 2019/20 to 2021/22



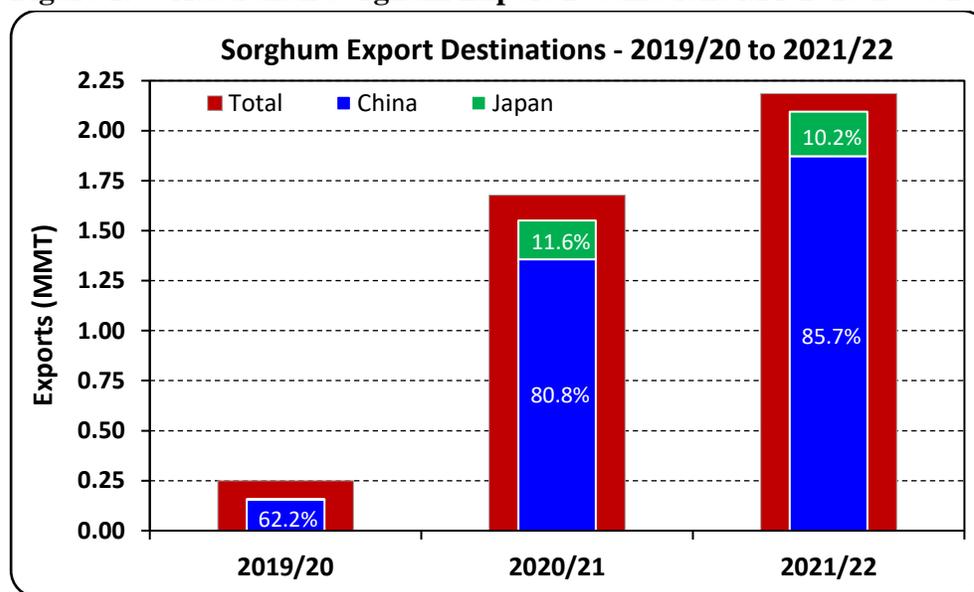
Source: Trade Data Monitor

Note: Australia Marketing Year is March to February

China is traditionally the major export destination for Australian sorghum during times of low and high supply. In MY 2020/21 and MY 2021/22, with a big increase in supply of sorghum for export, China maintained its dominant position accounting for over 80 percent of overall exports. Notably in these two years, Japan became a significant export destination at around 10 percent of overall exports (see Figure 19). For MY 2022/23 with another big export program anticipated, China and Japan are once again expected to be the destinations for almost all of Australia’s sorghum exports.

In addition to feed use, one of the primary uses of sorghum in China is for the production of ‘Baijiu’, a whiskey like white liquor. Baijiu has been produced in China for over 1,000 years and is the most widely consumed spirit in the world.

Figure 19 – Australian Sorghum Export Destinations MY 2019/20 to 2021/22



Source: Australia Bureau of Statistics

FAS/Canberra's export estimate for MY 2022/23 is 2.2 MMT and is in line with the official USDA estimate. With the expectation of only slightly lower production than the previous year and little domestic consumption, another strong export program, similar to that for MY 2021/22, is anticipated.

Stocks

Stocks are forecast to decline somewhat in MY 2023/24 due to a lower forecast production year and anticipated continued strong export demand.

Production, Supply, and Distribution of Sorghum

Sorghum Market Year Begins Australia	2021/2022		2022/2023		2023/2024	
	Mar 2022		Mar 2023		Mar 2024	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	622	622	700	700	0	550
Beginning Stocks (1000 MT)	20	20	258	373	0	363
Production (1000 MT)	2648	2648	2500	2500	0	1600
MY Imports (1000 MT)	0	0	0	0	0	0
TY Imports (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	2668	2668	2758	2873	0	1963
MY Exports (1000 MT)	2300	2185	2200	2200	0	1500
TY Exports (1000 MT)	2267	2267	2200	2100	0	1700
Feed and Residual (1000 MT)	100	100	300	300	0	300
FSI Consumption (1000 MT)	10	10	10	10	0	10
Total Consumption (1000 MT)	110	110	310	310	0	310
Ending Stocks (1000 MT)	258	373	248	363	0	153
Total Distribution (1000 MT)	2668	2668	2758	2873	0	1963
Yield (MT/HA)	4.2572	4.2572	3.5714	3.5714	0	2.9091

(1000 HA) ,(1000 MT) ,(MT/HA)

MY = Marketing Year, begins with the month listed at the top of each column

TY = Trade Year, which for Sorghum begins in October for all countries. TY 2023/2024 = October 2023 - September 2024

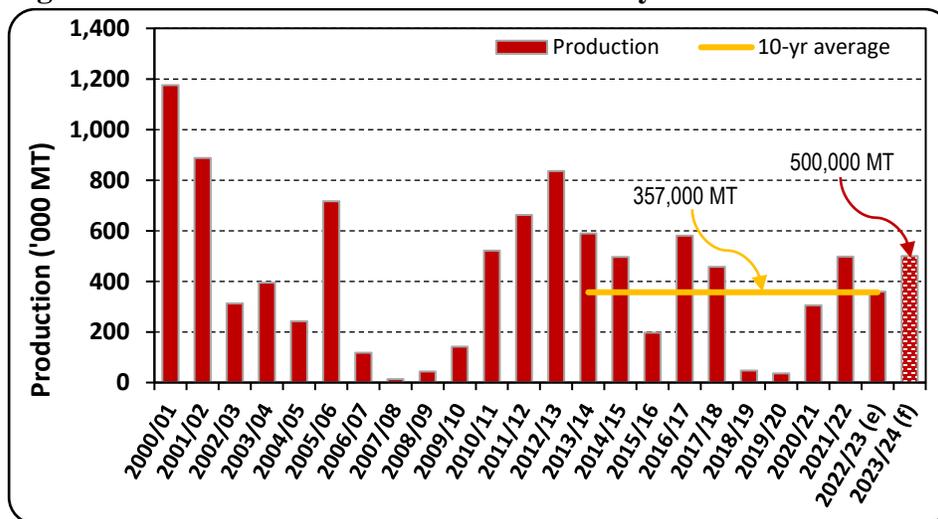
RICE

Production

FAS/Canberra forecasts milled rice production at 500,000 MT in MY 2023/24, a 39-percent increase over the MY 2022/23 estimate. The forecast production is based on the anticipation of a return to normal seasonal conditions at planting, the strong likelihood of ample irrigation water availability for the MY 2023/24 rice crop (to be planted from October 2023), and fertilizer costs trending back towards near pre-pandemic levels. The forecast production, if realized, would be around 40 percent higher than the previous 10-year average, and the largest since MY 2016/17 (see Figure 20).

The forecast production is still far below the peak of 1.175 MMT achieved in MY 2000/01. The overall decline in production from this peak is due to a series of factors, including the encroachment of cotton production and the growth in horticulture in the region and other regions. These have all created competition for water resources, and cotton has additionally created competition for land as they have similar planting and harvest periods. The increased competition for water resources has caused a general rise in traded water prices, which has impacted on the competitiveness of rice production. With these changed circumstances, it is expected that the rice industry will not return to the previous peak production level of over 1 MMT, but rather the current forecast is likely to be at the upper end of the expected peak production in the coming years.

Figure 20 – Australian Rice Production History

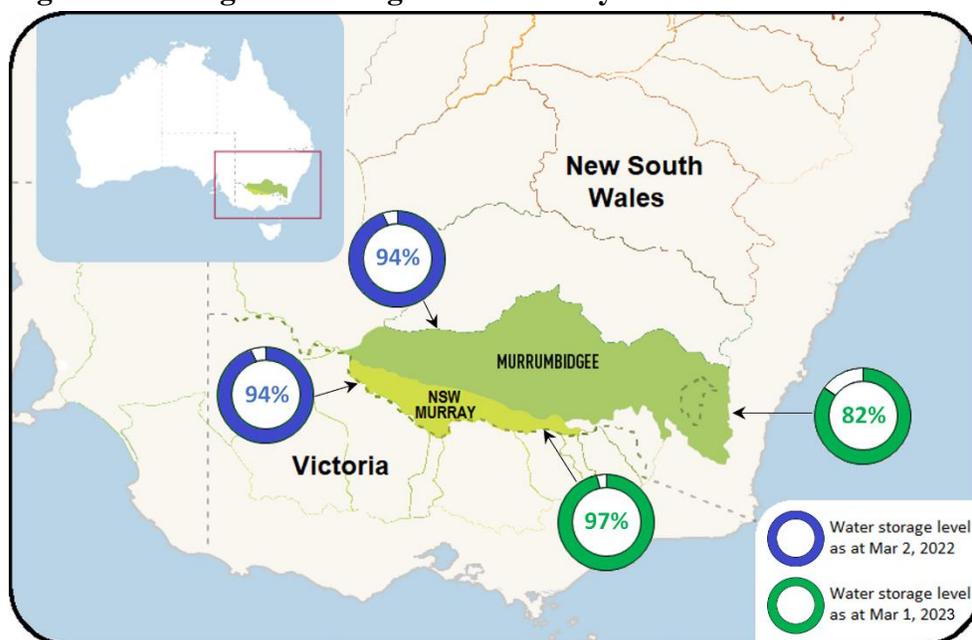


Source: PSD Online / FAS/Canberra

The 39-percent increase in forecast production for MY 2023/24 is primarily due to an anticipated expansion in crop harvested area, forecast to 65,000 Ha from the MY 2022/23 estimate of 50,000 Ha. The increased area is based on the assumption of more normal conditions at planting for the forecast crop. It is anticipated that planting will occur in a timely and more optimal period compared to the highly disrupted and extended planting period for the MY 2022/23 crop. Further to this, there is a high degree of confidence that there will be ample irrigation water availability for producers to support an expanded irrigated rice planting.

The near 500,000 MT crop in MY 2021/22 was a result of a major improvement in irrigation water availability, and this has continued in MY 2022/23 and is expected to extend into the forecast MY 2023/24 season. This is a reflection of the three successive years of well-above-average rainfall in the major rice producing regions from 2020 to 2022. This has occurred only on two other previous occasions (1973-1976 and 1998-2000) in recorded history. For the second successive year, the irrigation water storages affecting the major rice producing regions are near capacity at the beginning of March, which is the tail end of the irrigation season (see Figure 21). Even in the event that below-average rainfall in the irrigation water catchments in the winter spring period of 2023 were to happen, there is a strong likelihood that storage levels will remain high and offer rice producers the confidence that they will have ample irrigation water available for the MY 2023/24 crop.

Figure 21 – Irrigation Storage Levels - Early March 2022 and 2023



Source: Murray Darling Basin Authority

The average yield is forecast to remain stable and in line with the previous 10-year average. Over the last 10 years yields have been relatively consistent and close to the average over that period.

FAS/Canberra’s production estimate of 360,000 MT (milled) is in line with the official USDA estimate and also that of ABARES for MY 2022/23. The estimated decline in rice planted area and production for MY 2022/23 from MY 2021/22 is unrelated to any change in irrigation water availability. There was plenty of irrigation water but excessive rains in spring 2022 markedly disrupted planting, the severity of which was abnormal. Industry sources indicate that with more than half of the crop harvested yields have generally been good, given the wet and cold early start for the crop, and are approximately at expectation thus far.

Consumption

Domestic rice consumption for MY 2023/24 is forecast at 380,000 MT, up marginally from the estimated 375,000 MT for MY 2022/23. Prior to drought-influenced production (across MY 2018/19 to 2019/20) impacting domestic supply, consumption was relatively stable with a five-year average of around 365,000 MT. With a return to above-average production, consumption has moved past pre-drought levels. The forecast small increase in consumption is supported by Australia expecting a boost in migration in 2023 and 2024 and an associated increase in population.

FAS/Canberra's rice consumption estimate for MY 2022/23 is 375,000 MT, which is also in line with the official USDA estimate.

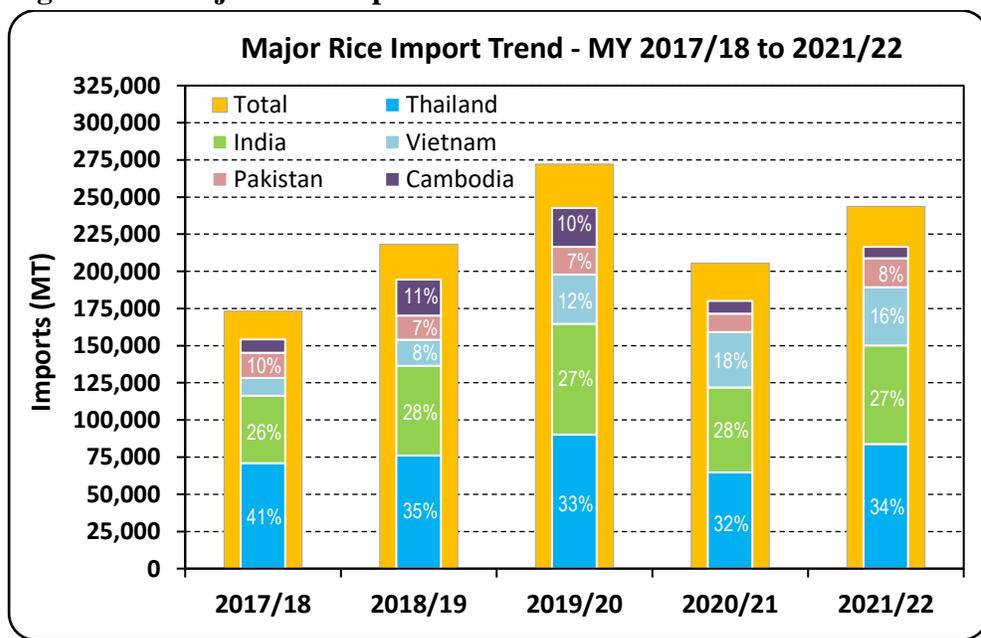
Trade

Imports

FAS/Canberra forecasts rice imports of 220,000 MT in MY 2023/24, a 12-percent decline from the MY 2022/23 estimate of 250,000 MT. This decline directly relates to the large increase in rice production for the forecast year. With Australia's rice production returning to much improved levels from MY 2021/22 onwards, similar to those of pre-drought levels, imports are also forecast to decline more in line with earlier levels.

FAS/Canberra's rice import estimate of 250,000 MT for MY 2022/23 is in line with that of the official USDA estimate. With imports of 244,000 MT in the prior year a small step up of imports is anticipated after a lower estimated production year for MY 2022/23.

Figure 22 – Major Rice Import Trend – MY 2017/18 to MY 2021/22



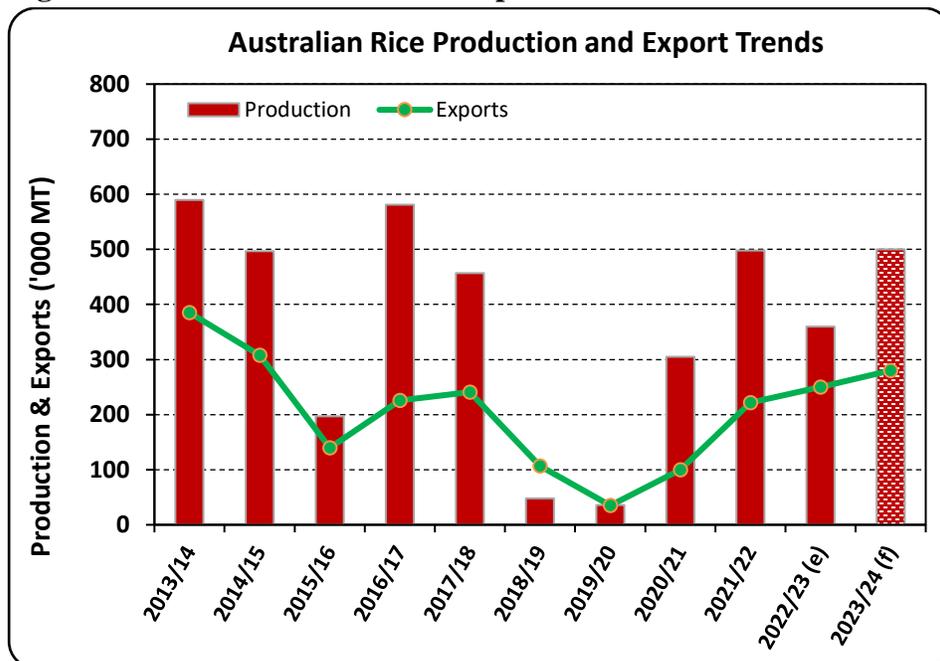
Source: Australian Bureau of Statistics

Thailand and India are by far the two largest rice suppliers to Australia, consistently at almost two-thirds of total imports over the last five years. The other three important sources of rice imports for Australia are Vietnam, Pakistan, and Cambodia. These sources have consistently supplied the majority of Australia’s rice needs for many years (see Figure 22) and this is not expected to change in MY 2022/23 with little shift in import demand anticipated.

Exports

FAS/Canberra forecasts rice export of 280,000 MT in MY 2023/24, a 30,000-MT (12 percent) increase from the MY 2022/23 estimate. This increase directly relates to the 39-percent increase in forecast rice production. Over the past 10 years, the change in exports from year to year has relatively closely tracked the shift in production (see Figure 23), and this general trend is expected to continue into the forecast year. With fluctuations in production from year to year there is smoothing effect on export volumes which relates to the associated lag time from completing harvest to milling and marketing the rice. Some of the produced rice in one marketing year is not exported until the following marketing year, so for MY 2022/23, exports are expected to be larger than would otherwise be anticipated because of these stocks. The forecast increase of rice exports in MY 2023/24 is expected to result in Australia reverting back to becoming a net exporter of rice in MY 2023/24 for the first time since MY 2017/18.

Figure 23 – Rice Production and Export Trends



Source: Australian Bureau of Statistics / PSD Online / FAS/Canberra

FAS/Canberra’s rice export estimate for MY 2022/23 at 250,000 MT is in line with the official USDA estimate and is a 13-percent improvement over the prior year result of 222,000 MT. Although production is expected to be lower in MY 2022/23 than the prior year, exports are expected to increase as a result of supply from the MY 2021/22 production flowing into exports this year.

Stocks

Rice stocks are estimated to increase a little in MY 2023/24 on the back of a forecast large increase in production. But overall stocks are not expected to vary greatly from the previous two years after stocks had recovered from a big production year in MY 2021/22 following a multiple year drought.

Production, Supply, and Distribution of Rice

Rice, Milled Market Year Begins Australia	2021/2022		2022/2023		2023/2024	
	Mar 2022		Mar 2023		Mar 2024	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	63	63	50	50	0	65
Beginning Stocks (1000 MT)	86	86	243	236	0	221
Milled Production (1000 MT)	498	498	360	360	0	500
Rough Production (1000 MT)	692	692	500	500	0	694
Milling Rate (.9999) (1000 MT)	7200	7200	7200	7200	0	7200
MY Imports (1000 MT)	244	244	250	250	0	220
TY Imports (1000 MT)	249	249	250	250	0	220
Total Supply (1000 MT)	828	828	853	846	0	941
MY Exports (1000 MT)	215	222	250	250	0	280
TY Exports (1000 MT)	207	213	250	250	0	280
Consumption and Residual (1000 MT)	370	370	375	375	0	380
Ending Stocks (1000 MT)	243	236	228	221	0	281
Total Distribution (1000 MT)	828	828	853	846	0	941
Yield (Rough) (MT/HA)	10.9841	10.9841	10	10	0	10.6769

(1000 HA) ,(1000 MT) ,(MT/HA)

MY = Marketing Year, begins with the month listed at the top of each column

TY = Trade Year, which for Rice, Milled begins in January for all countries. TY 2023/2024 = January 2024 - December 2024

Attachments:

No Attachments