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## **Report Name:** Sugar Annual

**Country:** Australia

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**Report Category:** Sugar

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### **Report Highlights:**

Australia's sugar production is forecast to increase to 4.4 million metric tons (MMT) in marketing year (MY) 2023/24, from an estimated 4.2 MMT in MY 2022/23. This increase is due to an expected rise in sugar cane crush to 33.5 MMT in MY 2023/24, from an estimate of 32.6 MMT in the previous year. The increase in production is in part driven by an anticipated small improvement in sugar cane yield after overall very good crop growth conditions for the first nine months of the season. In addition, there is an expectation of an increase in harvested area after a significant area of sugar cane was unable to be harvested in MY 2022/23 and will be carried over into MY 2023/24. Raw sugar exports are forecast to increase to 3.5 MMT in MY 2023/24 from the prior year estimate of 3.2 MMT, while refined sugar exports are expected to increase to 100,000 metric tons (MT).

## **Executive Summary**

Australia's sugar production is forecast to increase to 4.4 million metric tons (MMT) in marketing year (MY) 2023/24, from an estimated 4.2 MMT in MY 2022/23. This increase is due to an expected rise in sugar cane crush to 33.5 MMT in MY 2023/24, from an estimate of 32.6 MMT in the previous year. The increase in production is in part driven by an anticipated small improvement in sugar cane yield after overall very good crop growth conditions for the first nine months of the season. Also, there is an expectation of an increase in harvested area after a significant area of sugar cane was unable to be harvested in MY 2022/23, and will instead be carried over into the MY 2023/24 production season.

Of the total exports of sugar, over 95 percent is raw sugar and the balance is refined sugar. Raw sugar exports are forecast to increase to 3.5 MMT in MY 2023/24 from the prior year estimate of 3.2 MMT due to an increase in forecast production and expectation of firm world demand. Refined sugar exports are expected to increase to 100,000 metric tons (MT) in MY 2023/24 after a substantial dip in MY 2022/23 to an estimated 70,000 MT, which was as a result of lower sugar production and decreased demand from Singapore.

## **SUGAR CANE**

### **Overview**

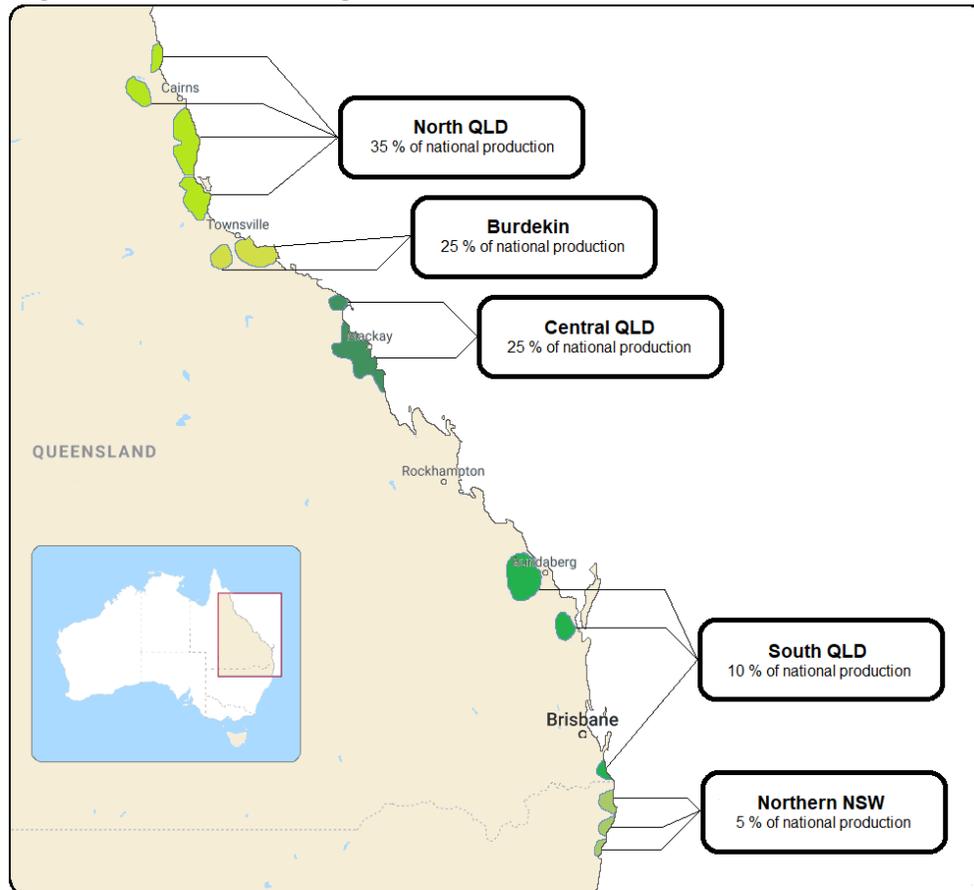
Australian sugar cane is grown on coastal plains and valleys along a 2,100 km stretch of Australia's eastern coastline between Mossman in north Queensland (QLD) and Grafton in northern New South Wales (NSW). North QLD has a tropical climate with average rainfall in the area as high as 3,500mm (138 inches) per annum, transitioning to the sub-tropical climate in northern NSW with average rainfall of approximately 1,500mm (59 inches). The key growing regions are shown in Figure 1 and their general characteristics are:

North Queensland	35 percent of national production. Tropical climate with rainfall of up to 3,500mm (138 inches) per annum. Production is more likely to be impacted by excessive rain rather than drought.
Burdekin	25 percent of national production. Tropical climate with rainfall of less than 1,000mm (39 inches) per annum. Highly reliant on irrigation. Highest yielding region.
Central Queensland	25 percent of national production. Tropical climate with rainfall of approximately 1,500mm (59 inches) per annum. Some areas achieve good yields with no irrigation and others use partial irrigation after harvest in the lead up to wet season rainfalls.

South Queensland 10 percent of national production. Sub tropical climate with average rainfall of approximately 1,100mm (43 inches) per annum. Dependent on irrigation water availability.

Northern NSW Five percent of national production. Sub-tropical climate with average rainfall of approximately 1,500mm (59 inches) per annum. Lower average temperatures and humidity creating slower growing conditions. Crop growing cycles range from 12 months to 24 months dependant on prevailing conditions.

**Figure 1 - Australian Sugarcane Production Areas**



Source: FAS/Canberra

The major sugar cane producing areas are in tropical regions and are dependent on high rainfalls and humid sunny conditions during the wet season period that typically runs from January to March. A positive wet season not only assists production of the current crop in the lead up to harvest but also sets up a high soil moisture profile for a successful planting of fallow area and replant areas, which in the tropical northern areas typically occurs between April and July. It also assists the regrowth of the early harvested sugar cane crop. Well timed smaller follow-up rainfall after the wet season period is also important for final sugar cane production outcomes.

There are approximately 3,044 sugar cane growers in Australia (ABARES – Farm Survey Analysis 2021) in a deregulated market. With typically 75 to 80 percent of production exported, the domestic sugar price is directly influenced by the world market price - the benchmark of which is the ‘Sugar #11 Futures’. Growers have three-year sugar cane supply agreements with the sugar mill in their area. Although the industry was deregulated in 2006, the sugar mills opted to continue a single desk marketing arrangement through Queensland Sugar Limited (QSL). In 2013, however, the millers decided to cease this single desk marketing arrangement and provided the required three years notice to end it. From 2017, growers have had the option to choose whether the rights to sell their sugar go to their own local sugar supply mill or QSL. The current structure enables other third-party marketers to also offer their services. Sugar cane growers also have the capacity to forward lock sugar prices on a portion of their annual production typically for up to three years. This assists in mitigating fluctuations in sugar prices from year to year. The industry grower representative body ‘Canegrowers’ has rolled out a ‘Pricing Essentials’ education program for their members to support growers to actively manage their price risk.

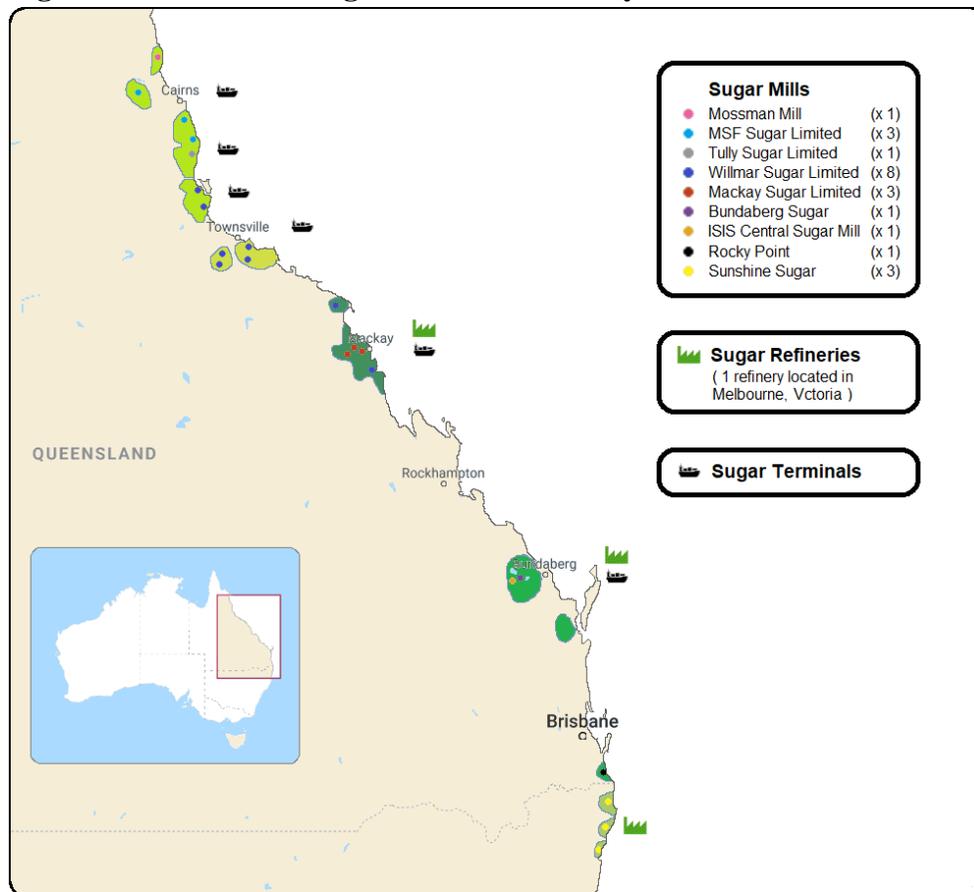
Sugar cane is a perennial tropical C4 plant originating from New Guinea. The crop germinates from billets (approximately a 30cm portion of a sugar cane stalk) planted in rows into a soil bed. The soil beds are raised to minimise waterlogging particularly during the high rainfall wet season periods. After germination plants will typically tiller and form 4-12 stems. The typical growing period between harvest is 12 months, however, in northern New South Wales the growing period is from 12 to 24 months, and it is varied according to prevailing climatic conditions. At harvest the entire plant is cut just above ground level and the stalks are cut into approximately 30cm lengths by machinery. The stalks are transported from the paddock by haulout wagons or trucks before being transported to the processing mill via small gauge rail or road transport. After the first planted sugar cane is harvested a series of successive crops regrow from the stubble which are referred to as ratoons. After the first harvest, annual production typically declines each successive year and farmers typically allow three to four ratoons. Farms typically have approximately 15 percent of their total sugar cane farming area as fallow in each season, which is planted from April to June in tropical regions. A further portion of the crop, typically 5-10 percent, is replanted (i.e. no fallow period) shortly after the final ratoon is harvested. This approach achieves a relatively even age profile of sugarcane plants across each farm and assists in optimising production and achieving a relatively stable production from year to year. The typical fallow and replant program and timing differs in the sub-tropical region of northern New South Wales from that of tropical regions.

There are a total of 22 sugar mills (see Figure 2) processing sugar cane typically from June through to late November. The mills are owned by nine different entities ranging from public listed companies, public unlisted companies, one private company and one cooperative. Mills process sugar cane typically within 24 hours of harvest, producing raw sugar and by-products such as molasses, bagasse, ash and mill mud. Molasses is generally used in the animal feed industry and one of the Wilmar mills in central Queensland also produces ethanol from molasses. Multiple mills have cogeneration plants using bagasse

to produce electricity for their own needs and surplus power is fed into the local electricity grid. Ash and mill mud are used as a fertiliser by sugar cane producers.

Approximately 75 to 80 percent of raw sugar production is delivered and stored at one of six ports on the Queensland coast for subsequent export. A small amount of raw sugar is also domestically refined for consumption in Australia and a relatively small volume of refined sugar is exported. There are a total of four sugar refineries owned by three entities. Three of the refineries are located in the growing regions (see Figure 2) and one is located in Melbourne, Victoria. There are six ports at which sugar is stored and loaded onto ships for export. These port facilities are all owned by Sugar Terminal Limited (STL) of which the major shareholder is QSL who also manage the terminals owned by STL.

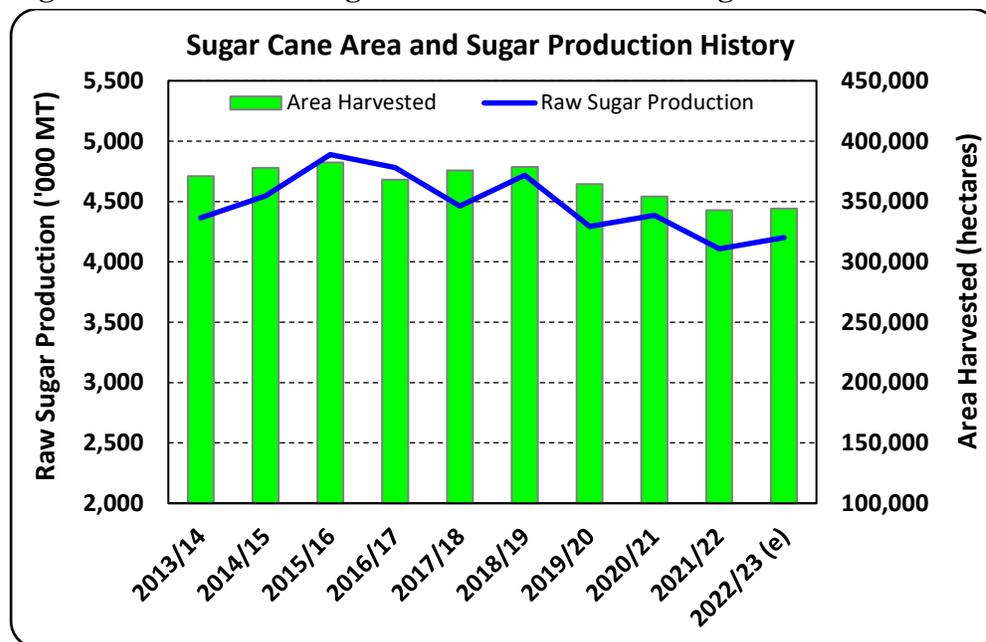
**Figure 2 – Australian Sugar Mill and Refinery and Port Terminal Locations**



Source: FAS/Canberra using data from Australian Sugar Milling Council

Despite the significant variations in rainfall from year to year, the risk of cyclone damage experienced in Australia, and large world sugar price fluctuations, nevertheless sugar cane and subsequently raw sugar production does not typically vary greatly from year to year. Over the last 10-year period, raw sugar production has varied from 4.11 MMT to 4.89 MMT (see Figure 3), a variation of around  $\pm 8$  percent. Raw sugar production is closely correlated to the area of sugar cane harvested (see Figure 3).

**Figure 3 – Australian Sugar Cane Area and Raw Sugar Production History**



Source: Australian Sugar Milling Council (ASCM)

Note: (e) ASCM Provisional results

There are a series of key factors that influence overall production:

- 1) Dry conditions around the time of planting can lead to a failed crop establishment, negatively impacting harvested area.
- 2) The impacts of cyclones which occur from time to time, mainly in the tropical regions, can significantly affect yields, and crops may take 2-3 seasons to fully recover.
- 3) Wet weather during harvest can lead to some area of sugar cane remaining unharvested and carried over to the following year. Although these carry over crops can have high yields, they usually have low sugar content and are far from optimal.
- 4) Significant mill breakdowns during the crush can extend the harvest period by weeks, and may increase overall yield in that season but will have a negative impact on the following season as the late harvested crop has a shorter growing period.
- 5) Grower sentiment associated with large variations in sugar prices not only influences planted area, but also the level of crop inputs such as fertilizer which influence yields.

However, the nature of the sugar cane plant with a 12-month growing cycle along with the crops typical three to four ratoons have a strong stabilizing influence over the crop and subsequent raw sugar production from year to year.

## **Policy & Other Industry Matters**

### **UK-AU FTA**

The United Kingdom (UK) and Australian parliaments have accepted the Free Trade Agreement between these 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 sugar industry is expected to receive immediate access to 80,000 MT of tariff-free quota to the UK with 20,000 MT annual increases reaching 220,000 MT in year eight, after which sugar tariffs will be eliminated. This is a marked improvement to current access of merely 9,925 MT. Although it is welcomed by the Australian sugar industry and provides a further significant market access option, it is anticipated that Australia will continue to focus its trade to nearby Asian markets.

### **Production**

FAS/Canberra forecasts MY 2023/24 sugar cane production at 33.5 MMT, a modest three percent increase over the MY 2022/23 estimated production of 32.6 MMT. This small forecast increase brings production marginally up above the previous 10-year average of 32.4 MMT. The improvement in overall production is related to a slight increase in forecast yield and a very small lift in harvested area. The first six months of the production season from July to December 2022 had above-average rainfall across all sugar cane producing regions, which supported very good early growth although it may have hindered some more northern tropical areas with too much rain. For January to March 2023, during the tropical wet season, rainfall was broadly around average but below average in the smallest producing area of northern New South Wales. The conditions to date have established the prospect of improved yields but have partially been hindered by the slow harvest progress and late finish to the MY 2022/23 crush, which will shorten the production period for the forecast crop. Supporting the overall forecast production increase will be the bump up in harvested area associated with a substantial area unharvested in central Queensland, which is being carried into the forecast year.

In the initial six-month growing period from July to December 2022, prior to the onset of tropical wet season rains, all sugar production regions in Queensland received above-average rains (see Figure 4). This set up a significantly improved early crop growth phase immediately after harvest for existing ratoons for those tropical regions that weren't too wet but also improved the prospects of success for newly planted sugar cane. The most northern tropical regions tend to be negatively impacted by above-average rains causing soil water logging and impeding new planting, fertilizer and weed management. But for the more southern tropical regions and sub-tropical regions in the far south, above average rains are generally favorable for sugar cane crop yields. On balance the above-average rains during the early crop growth phase (July to December 2022) have established a platform for improved yields for the MY 2023/24 crop.

Tropical wet season rains, mainly from January to March each year, also have a substantial bearing on the final crop yields. This period typically produces more than ample rainfalls in the tropical growing areas of north Queensland, Burdekin and central Queensland, but in some seasons, there can be excessive rainfall with many overcast days with limited sunshine which limits crop growth. In an average wet season period this is typically the case for the north Queensland area which represents around 35 percent of overall production. For the January to March 2023 period:

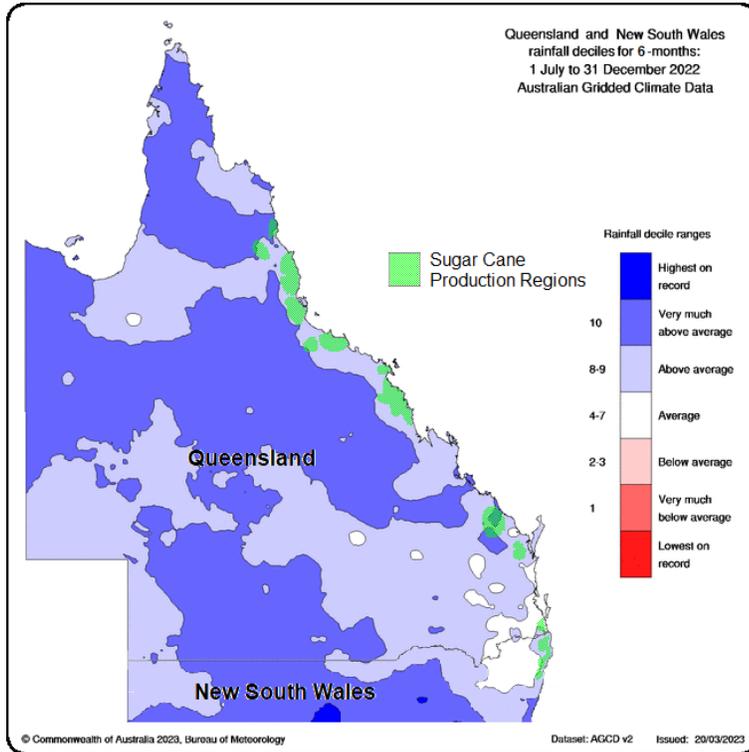
- The more northern parts of the north Queensland area had average to above-average rainfall.
- The lower tropical areas of central Queensland had average rainfall.
- The sub-tropical areas of southern Queensland and northern New South Wales had below-average rainfall (see Figure 5).

The sub-tropical areas did have above-average rains in July to December 2022 and typically account for around 15 percent of national sugar cane production, so is not expected to have any significant drag on the overall production forecast.

The above-average rains during the early crop growth phase had also caused multiple delays in harvesting the MY 2022/23 crop which culminated to around three to five weeks longer than usual with some regions finishing in the second week of January 2023. Even then central Queensland is reported to have around 550,000 MT of unharvested sugar cane which will continue to grow and subsequently be harvested in the forecast year. Good practice is for harvest to be completed by early to mid-November each year, but in this instance, it finished in early January 2023. The flow on effect for the MY 2023/24 crop is that the sugar cane areas that were harvested far later than optimal will have a shorter growing period, reducing yield potential, and also likely a lower sugar content than would otherwise be expected.

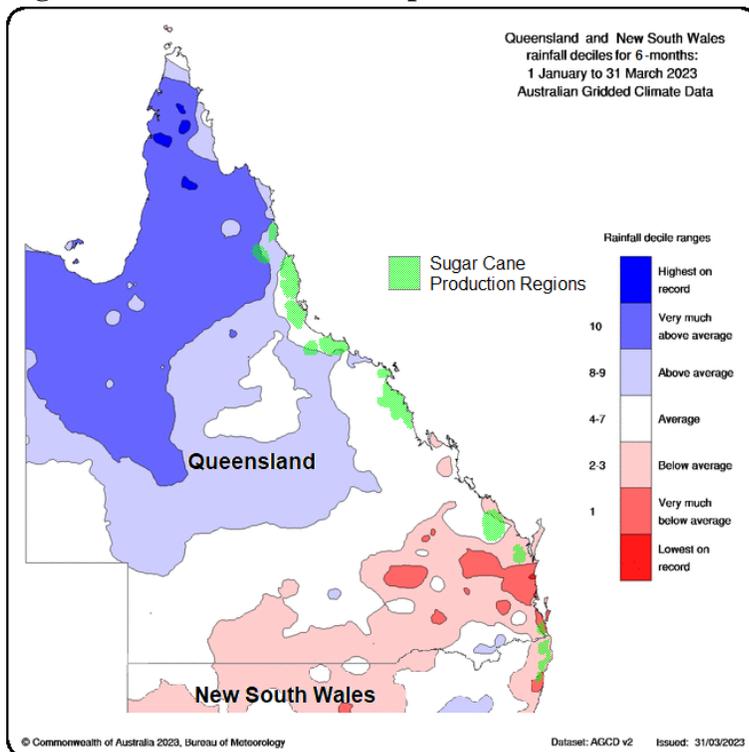
At the end of March, sugar cane crops are well advanced and a short period away from the commencement of harvest at the end of May 2023. Some rainfall after the wet season period in the lead up to and during harvest is helpful to achieve higher yields. The Australian Bureau of Meteorology forecast indicates a likelihood of average rainfall for the sub-tropical production regions (see Figure 6) which have had below average rains in the previous three months. If realized, their yields should not be greatly impeded after above-average rains in the first six months (July to December 2022). The southern tropical regions of central Queensland are anticipating average rainfall for the April to June 2023 period supporting improved yield expectations from the prior year. For the northern tropical regions, the Australian Bureau of Meteorology is forecasting below-average rains in the April to June 2023 period. But for this region that tends to be more impacted by too much rain this forecast is not expected to be very detrimental to their sugar cane crop yields.

**Figure 4 – Rainfall Decile Map - Jul to Dec 2022**



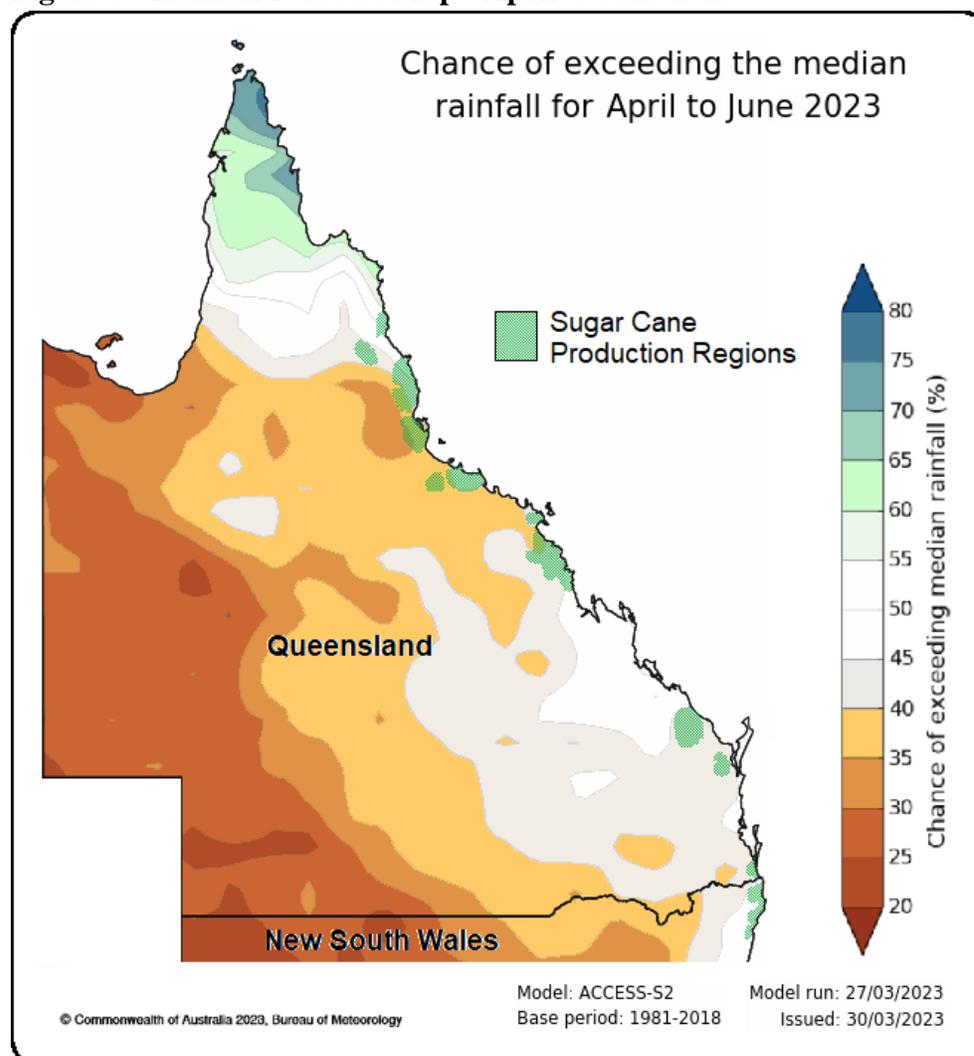
Source: Australian Bureau of Meteorology / FAS/Canberra

**Figure 5 – Rainfall Decile Map - Jan to Mar 2023**



Source: Australian Bureau of Meteorology / FAS/Canberra

**Figure 6 - Rainfall Forecast Map - April to June 2023**



Source: Australian Bureau of Meteorology / FAS/Canberra

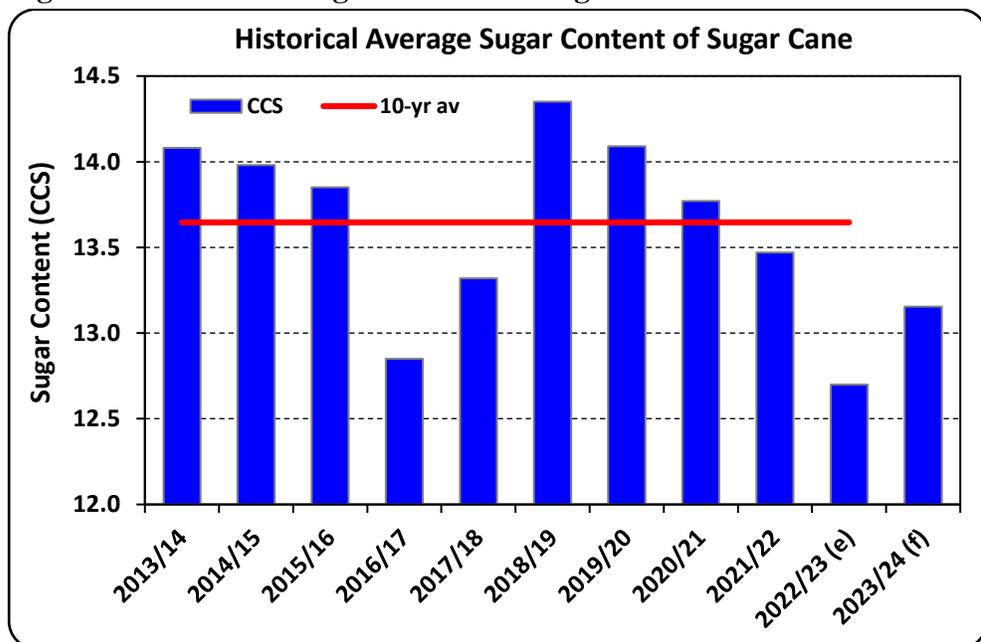
MY 2022/23 sugar cane production has been revised downwards slightly by FAS/Canberra to 32.6 MMT, compared to the official USDA estimate of 33.0 MMT. This revision is based on Australian Sugar Millers Council results from the completed harvest. Some of this gap is associated with a small area which remained unharvested in MY 2022/23 due to the multiple delays caused by above-average rains during the harvest period.

## **SUGAR Production**

FAS/Canberra forecasts Australia's MY 2023/24 sugar production at 4.4 MMT, a five percent increase over the MY 2022/23 estimated production of 4.2 MMT. The increase is mainly due to the expected improvement in overall sugar content.

The sugar content of sugar cane in the MY 2023/24 season is expected to improve significantly (see Figure 7) but still be well below the previous 10-year average. This increase is mainly due to the expectation of typical conditions during the harvest allowing for a normal harvest duration where the crops are harvested at a more optimal sugar content than was the case for MY 2022/23. But countering this positive is that the forecast crop will have a shorter growing period which will impact the maturity of the crop at harvest, and this is anticipated to have a negative impact on the potential sugar content and keep it below the 10-year average.

**Figure 7 – Historical Sugar Content of Sugar Cane**

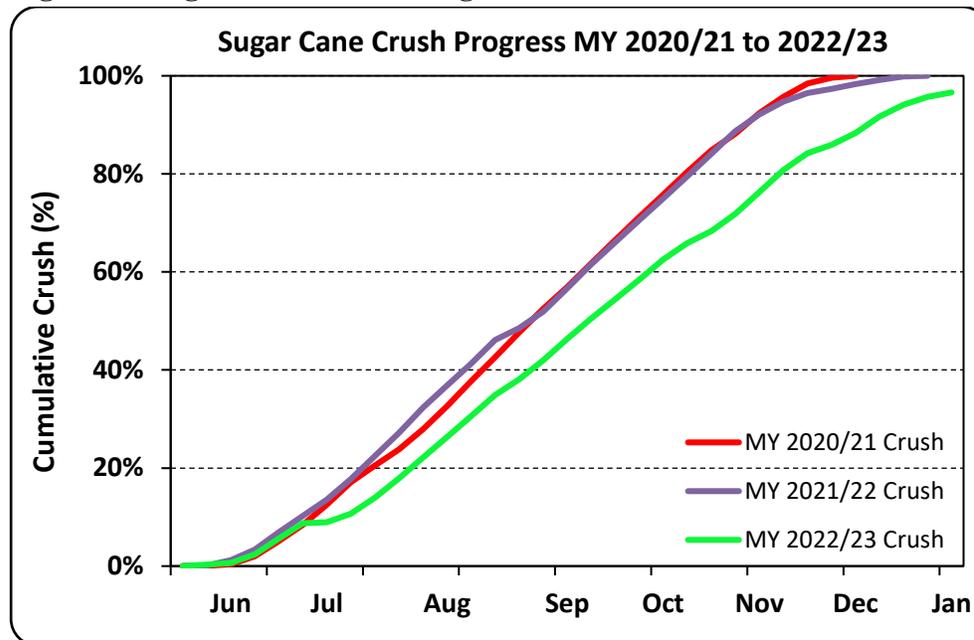


Source: *Canegrowers / Australian Sugar Milling Council / FAS/Canberra*

Note: *CCS = Commercial Cane Sugar (a measure of sugar content of sugar cane used by millers)*

The MY 2022/23 harvest was impacted by multiple rain events which drastically slowed the harvest progress in comparison to previous years (see Figure 8). MY 2021/22 also had some delays and one of the major mills had a substantial breakdown early in the season which also delayed the finish to the season into early January 2022 but the rate of harvest progress for MY 2022/23 was far slower. Even though MY 2021/22 was a late finish, the rate of harvest progress was still sound and comparable to a typical season like MY 2020/21. This slow rate of harvest progress in MY 2022/23 will have an impact on shortening the growth period for the forecast MY 2023/24 crop and its maturity at harvest which is expected to adversely affect the sugar content.

**Figure 8 –Sugar Cane Crush Progress – MY 2020/21 to MY 2022/23**

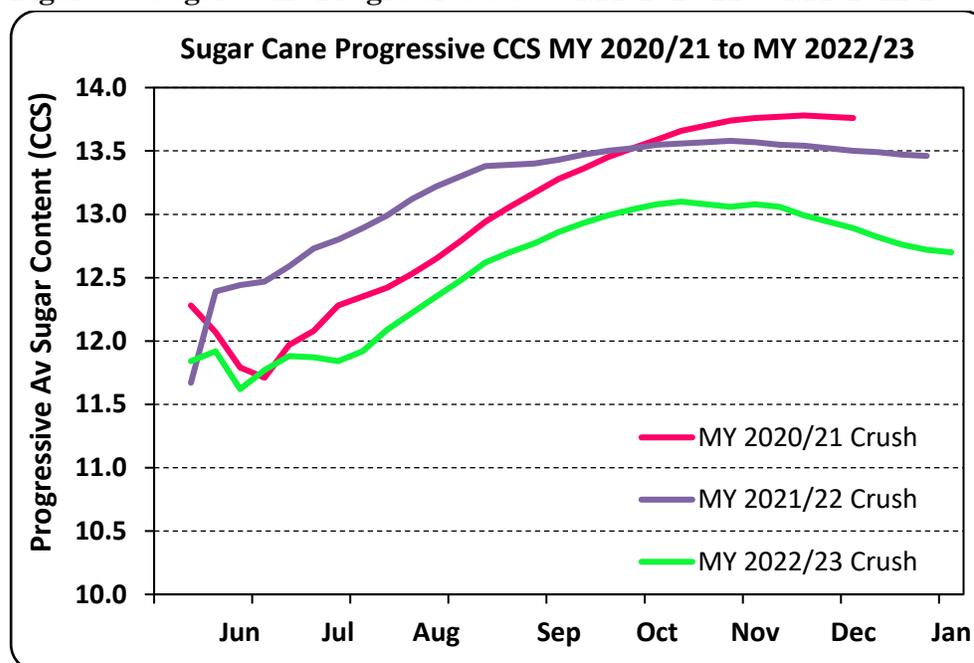


Source: Australian Sugar Milling Council

MY 2022/23 sugar production has been revised downwards by FAS/Canberra to 4.2 MMT, compared to the official USDA estimate of 4.35 MMT. Although sugar cane production was close to what was forecast, the sugar content was far below expectation after a very wet harvest period that extended the harvest period well beyond normal, which negatively impacted sugar content.

The sugar content of sugar cane is typically at its peak in October and November. The sugar content generally begins to fall for sugar cane harvested after the start of December (see Figure 9). For MY 2022/23 the sugar content early in the season was relatively low in part because the crop was encouraged to continue to grow from the above-average rains and partly because of the late finish to the MY 2021/22 harvest resulting in a shorter growth period for part of the crop. For MY 2022/23 the sugar content of the sugar cane deteriorated quickly from the start of December 2022, far more so than for MY 2021/22.

**Figure 9 –Sugar Cane Progressive CCS – MY 2020/21 to MY 2022/23**



Source: Australian Sugar Milling Council

Note: CCS is a measure of sugar content in sugar cane

### Consumption

Domestic sugar consumption for MY 2023/24 is forecast to increase to 900,000 MT, from the MY 2022/23 estimate of 850,000 MT.

The forecast consumption is around 11 percent lower than the previous ten-year average. The general decline in sugar consumption is due to changing dietary habits and increasing government focus on food labelling standards, particularly relating to the sugar content of drinks and foods. This broad trend is expected to continue in the near term. However, Australia is expecting a boost in migration in 2023 and 2024 and an associated increase in population which is expected to boost the overall consumption of sugar for the forecast year.

### Trade

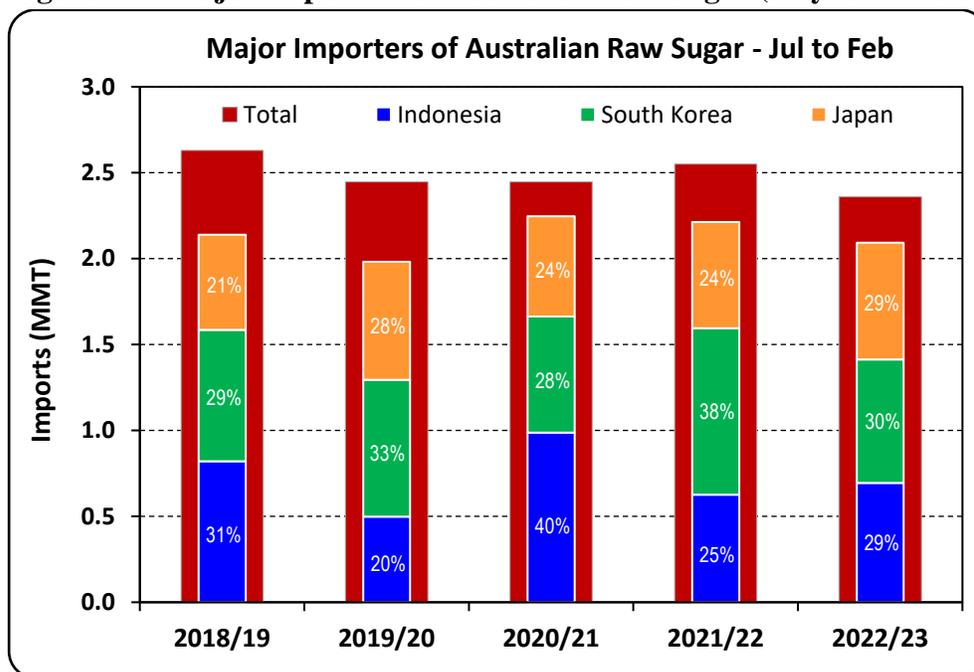
Raw sugar exports in MY 2023/24 are forecast to increase to 3.5 MMT from an estimate of 3.2 MMT in MY 2022/23. This increase in raw sugar exports mainly relates to the expectation of strong world demand for sugar based on very firm futures prices and Australia’s capacity to increase exports due to the forecast rise in sugar production.

Around 80 percent of Australian sugar is exported and of this, raw sugar represents over 95 percent, with the balance being refined sugar. With relatively high production costs in Australia relative to other major producers, there is no expectation that refined sugar exports will shift by any significant degree in the coming years.

The major importers of Australian raw sugar over recent years have consistently been South Korea, Indonesia and Japan (see Figure 10) and they now account for almost 90 percent of the overall results. Over the last two marketing years most of the remaining 10 percent of importers of Australian raw sugar have been Singapore, United States, and New Zealand. Australia has in the past exported well over 4 MMT of raw sugar, and with current high prices and demand there is little concern that Australia can find markets for the forecast of 3.5 MMT.

MY 2022/23 raw sugar exports have been revised downwards by FAS/Canberra to 3.2 MMT, compared to the official USDA estimate of 3.45 MMT. This revision is due to a lower sugar production estimate based on results from the Australian Sugar Millers Council. Imports of Australian raw sugar in the marketing year-to-date (July 2022 to February 2023) reached 2.35 MMT and on an annualized basis, after taking into account monthly seasonality variations exports for MY 2022/23 are on track to achieve the estimated 3.2 MMT.

**Figure 10 – Major Importers of Australian Raw Sugar (July to February)**



Source: Trade Data Monitor (data as reported by importing countries)

Singapore typically imports over 85 percent of Australia’s total refined sugar exports, and around one-third of their overall imports over recent years has been from Australia. Refined sugar exports for MY 2023/24 are forecast to increase to 100,000 MT, but this is from a substantial drop in the MY 2022/23 estimate to 70,000 MT, in part due to the drop in sugar production. The marketing year-to-date exports for MY 2022/23 (July 2022 to February 2023) are around half that of the same period in the previous year. Most of the decline is reduced exports to Singapore who have reduced their overall refined sugar imports by 22 percent for this period. However, there has also been a substantial decline in refined sugar

exports to Papua New Guinea who has been the only other significant destination for Australian refined sugar. The forecast of 100,000 MT is around 40 percent below the previous 10-year average, which is reflective of a gradual decline over this period.

Australian imports of refined sugar are very low and equate at just over one percent of domestic consumption. FAS/Canberra forecasts refined sugar imports to remain stable at 8,000 MT in MY 2023/24, in line with the estimate for MY 2022/23. Refined sugar exports have broadly been trending down over the last decade.

### Stocks

End of year stocks of sugar in Australia are typically very low. This relates to the close alignment of the start of the sugar cane harvest season (June) with the beginning of the marketing year (July). Exports of sugar typically ramp up in July one month from the start of harvest and remain high through to December, one month after harvest is usually completed in November. For the remainder of the marketing year from January to June, export quantities are lower, and this period is used to clear stocks in the lead up the commencement of the following harvest.

### Production, Supply, and Distribution of Sugar Cane

Sugar Cane for Centrifugal Market Year Begins	2021/2022		2022/2023		2023/2024	
	Jul 2021		Jul 2022		Jul 2023	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted (1000 HA)	0	0	0	0	0	0
Area Harvested (1000 HA)	345	343	350	344	0	350
Production (1000 MT)	30100	30100	33000	32600	0	33500
Total Supply (1000 MT)	30100	30100	33000	32600	0	33500
Utilization for Sugar (1000 MT)	30100	30100	33000	32600	0	33500
Utilizatn for Alcohol (1000 MT)	0	0	0	0	0	0
Total Utilization (1000 MT)	30100	30100	33000	32600	0	33500
(1000 HA) ,(1000 MT)						

## Production, Supply, and Distribution of Centrifugal Sugar

Sugar, Centrifugal Market Year Begins	2021/2022		2022/2023		2023/2024	
	Jul 2021		Jul 2022		Jul 2023	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
<b>Australia</b>						
<b>Beginning Stocks</b> (1000 MT)	135	135	294	294	0	384
<b>Beet Sugar Production</b> (1000 MT)	0	0	0	0	0	0
<b>Cane Sugar Production</b> (1000 MT)	4120	4120	4350	4200	0	4400
<b>Total Sugar Production</b> (1000 MT)	4120	4120	4350	4200	0	4400
<b>Raw Imports</b> (1000 MT)	3	3	3	2	0	2
<b>Refined Imp.(Raw Val)</b> (1000 MT)	6	6	5	8	0	8
<b>Total Imports</b> (1000 MT)	9	9	8	10	0	10
<b>Total Supply</b> (1000 MT)	4264	4264	4652	4504	0	4794
<b>Raw Exports</b> (1000 MT)	3000	3000	3450	3200	0	3500
<b>Refined Exp.(Raw Val)</b> (1000 MT)	120	120	120	70	0	100
<b>Total Exports</b> (1000 MT)	3120	3120	3570	3270	0	3600
<b>Human Dom. Consumption</b> (1000 MT)	850	850	900	850	0	900
<b>Other Disappearance</b> (1000 MT)	0	0	0	0	0	0
<b>Total Use</b> (1000 MT)	850	850	900	850	0	900
<b>Ending Stocks</b> (1000 MT)	294	294	182	384	0	294
<b>Total Distribution</b> (1000 MT)	4264	4264	4652	4504	0	4794
(1000 MT)						

### Attachments:

No Attachments