USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

Required Report - public distribution

Date: 9/29/2017
GAIN Report Number: AS1717

Australia

Sugar Semi-annual

October 2017

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Report Highlights:
Post forecasts the Australian sugar cane crush for 2017/18 at 34 million MT, up 6 percent on the official forecast. Sugar production is forecast at 4.8 million MT in 2017/18, the same as the official forecast. Post notes that in March 2017, a tropical cyclone hit Queensland cane growing regions, but was less damaging than expected. The harvested area for sugar cane is revised down to 400,000 hectares for 2017/18, due to the lower price and competition from other crops. Exports of sugar in 2017/18 are forecast at 3.7 million MT, the same as the official forecast.

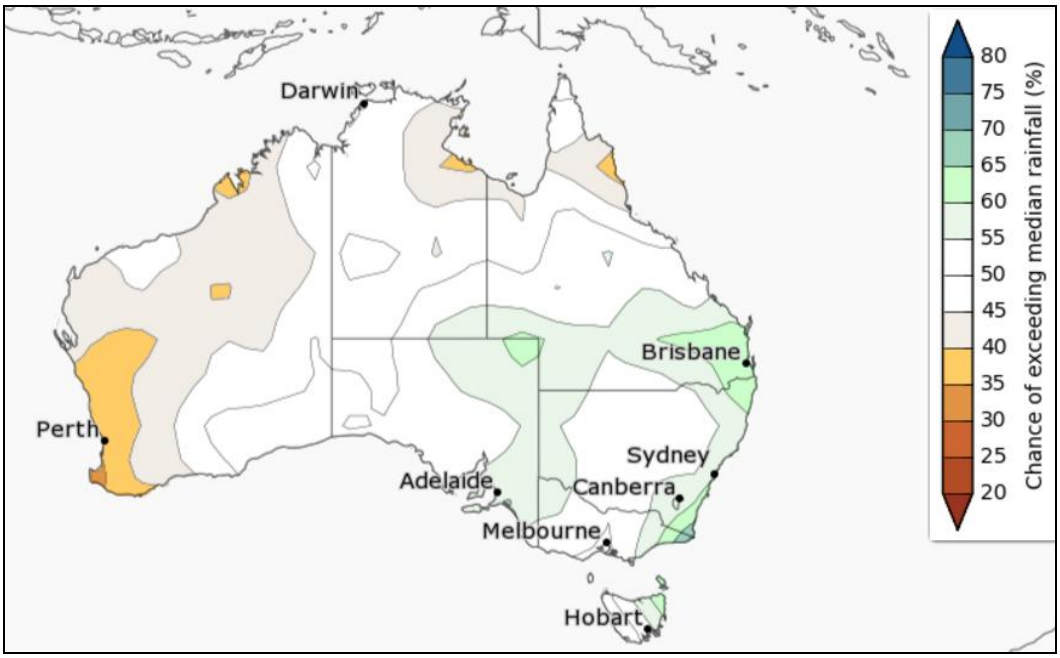
Executive Summary

Post forecasts the Australian sugar cane crush for 2017/18 at 34 million MT, up 6 percent on the official forecast. One contributing factor was the less damaging than expected impact of a tropical cyclone on northern growing areas of Queensland coast, where a significant part of the sugar cane crop is grown. Post forecasts sugar production for 2017/18 at 4.8 million MT, the same as the official forecast. Sugar exports are forecast by Post to be stable to 3.7 million MT in 2017/18, matching the official forecast.

Seasonal Conditions

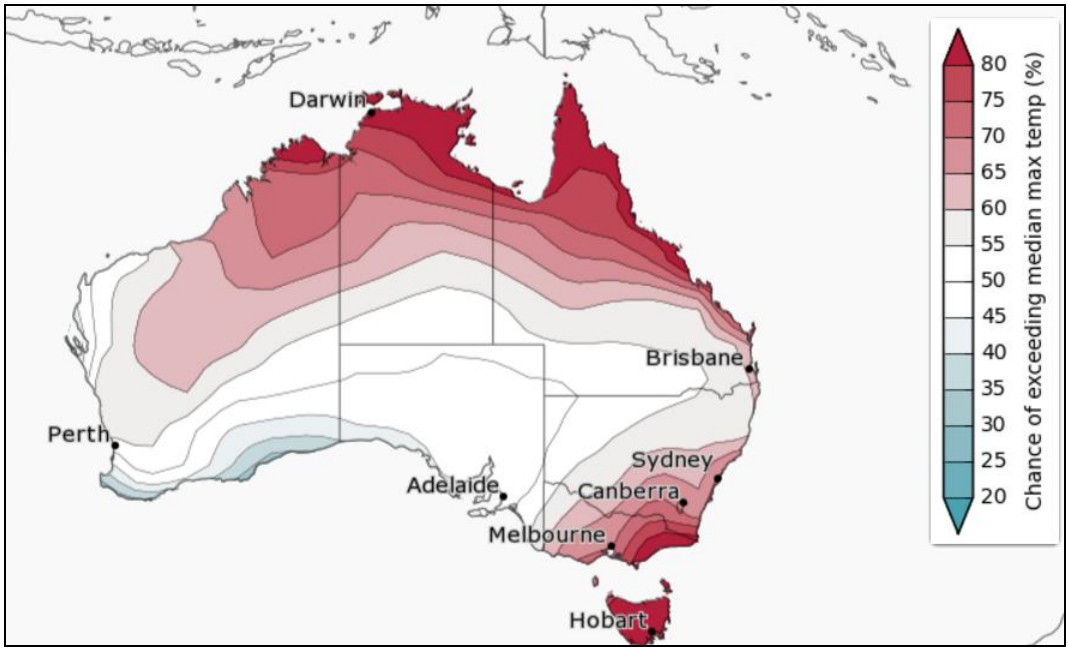
The seasonal outlook is important for the Australian sugar industry as it can be affected by severe weather events, such as cyclones, drought and flooding. Over the three months to November 2017, the Australian Bureau of Meteorology (BOM) has forecast average rainfall, while temperatures are expected to be slightly warmer than average (see charts 1 and 2). Similarly, the outlook for cane growing regions is for average rainfall during this period.

Chart 1: Chance of exceeding the median rainfall in the three months to November 2017



Source: Bureau of Meteorology (2017).

Chart 2: Chance of exceeding the median temperature in the three months to November 2017



Source: Bureau of Meteorology (2017).

Commodities:

Sugar Cane for Centrifugal

Sugar, Centrifugal

Production

Post forecasts Australian sugar production for 2017/18 at 4.8 million MT, the same as the official forecast. This represents a decline of 6 percent on the previous year due to the lower world price and competition from other crops, such as avocados and macadamia nuts. Post notes that the effects of the cyclone on these regions was less damaging than expected and sugar mills and terminals along the eastern coast appear to have escaped serious damage. Post has forecast the harvested area at 400,000 hectares down from the official estimate of 410,000 hectares, as a result of the drier seasonal conditions and competition from other crops.

Average cane yields are expected to be lower in 2017/18 due to drier conditions than the previous year, while commercial cane sugar content is expected to rise slightly as moisture levels fall for sugarcane in the field. Halfway through the 2017/18 harvest in mid-September, the commercial cane sugar content averaged 13.3 percent sucrose but was expected to rise further for the remaining harvest.

Sugarcane is grown in high-rainfall and irrigated districts areas along coastal plains and river valleys on 2,100 km of Australia's eastern coastline. These range from Mossman in far north Queensland to Grafton in New South Wales (NSW). There are four major regions which differ by climate: North, Burdekin, South and Central Queensland. In the Burdekin, much higher cane yields are usually possible due to more favorable climate and intensive irrigation. High rainfall in the North means cane is rain-fed whilst in Central and Southern Queensland there is supplementary irrigation.

Sugarcane grows for 10-18 months before being harvested, depending on the region. Mature sugarcane is usually harvested between June and December when the sugar content is at its highest. All sugarcane grown in Australia is harvested mechanically by self-propelled harvesting machines. A hectare of land typically yields 80–100 MT of sugarcane from which some 10–15 MT of raw sugar can be produced.

Post notes that the area available for sugar cane production in Australia has been limited by urban development, other crops and water availability. The industry hopes to gradually establish new sugar cane farms in northern Queensland near the Burnett River, as well as in Ord River Irrigation Area of Western Australia, where the industry operated from the mid-1990s until 2007.

Table 1: Australian sugar cane and sugar production by region, 2014-2016

Region	Sugar cane ('000 MT)			Harvested area of cane crop (ha)		
	2014	2015	2016	2014	2015	2016
Mossman	587	1,141	1,211	7,580	13,069	13,455
Tableland	850	330	382	7,865	3,682	4,298
Mulgrave	1,343	1,244	1,067	14,675	15,576	12,206
Innisfall	1,445	1,483	na	17,279	22,119	22,517
Tully	2,336	2,437	2,270	26,122	27,746	22,517
Burdekin	7,293	8,061	8,281	71,402	71,163	70,473
Prosperine	1,632	1,701	1,672	21,038	21,814	21,494
MacKay	5,016	5,489	5,060	69,867	68,967	69,120
Plane Creek	1,215	1,366	1,285	16,556	16,922	17,249
Bundaberg	1,503	1,565	1,740	20,927	20,013	19,931
Isis	1,164	1,164	1,285	15,239	15,319	14,686
Maryborough	608	474	861	10,070	8,304	11,313
Rocky Point	232	209	384	3,568	2,850	3,754
Condong	321	537	551	4,188	4,541	4,508
Broadwater	558	585	na	6,082	6,059	6,289
Harwood	422	422	na	4,590	3,860	5,136

Source: Cane Growers Australia (2017).

In recent years, some sugar cane farmers have introduced break crops to re-introduce nitrogen into the soil to improve yields over the longer term. Trials have been conducted for the introduction of soybeans at the beginning of the sugarcane cropping cycle, which would allow growers to plant in January and produce a viable crop for grain harvest. The planting of soybeans and mung beans increases soil nitrogen levels and reduces weeds and soil nematode numbers.

The rice industry has sought to encourage cane farmers to plant rice as a supplementary crop in irrigated fields, although this development is still at an early stage. Trials of 175 varieties of sugar cane are being conducted in Queensland's inland North Burnett region to see if the industry can expand into this region.

The Sugar Milling Sector

Post expects that milling of the 2017/18 cane crop will be completed before the end of December, well ahead of the previous year when mill breakdowns extended the season for over 4 weeks. There are 24 sugar mills in Australia owned by eight companies. These mills produce raw sugar, which is either directly exported or refined in four refineries for domestic consumption.

The main products of the sugar milling process are raw sugar (refined into white, brown, golden syrup), molasses which is used for cattle feed and bagasse, which is used to generate steam and electricity. In addition, mill residues are used as organic fertilisers for farms and sugar cane mulch is used for garden landscaping. In the 2016 crushing season, around 95 percent of cane harvested in Queensland was transported directly to mills on over 4,000 kilometers of rail track.

After harvesting, sugar cane is transported to the mill for processing and needs to be processed as quickly as possible after cutting. The mills shred and crush the stalks to separate the juice from the fibre

(bagasse). The juice is then filtered, heated and cooled to form crystals which are dried and stored in bulk bins ready for shipping. After processing, raw sugar is transported to one of six bulk sugar terminals in Queensland for storage. Around 2.4 million MT of raw sugar can be stored at these terminals. Sugar mills are self-sufficient in energy and burn the sugar processing by-product bagasse, to generate electricity and steam for factory operations. In recent years, over half of the total electricity generated has been exported to the electricity grid.

Water Usage on Australian sugar farms

Cane sugar growers harvest both rain-fed and irrigated crops, although the cost and availability of water is a key variable for farms. Over 90 percent of Australia's existing cane is grown on the coastal fringe, where rainfall and irrigation makes water readily available. Around 10 percent of available irrigation water in Australia is used to irrigate sugar cane. Information on irrigation of the Australian sugar crop is given in Table 2.

Table 2: Survey of water usage on Australian sugar farms, 2013 and 2016

	Australia		**NSW**		**Queensland**	
	2013	**2016**	**2013**	**2016**	**2013**	**2016**
Area of sugar crop ('000 hectares)	372	447	19	23	353	423
Businesses (no.)	3,694	3,341	458	15	3,236	2,976
Area watered ('000 hectares)	170	230	..	0.5	170	229
Businesses (no.)	1,679	1,839	..	15	1,652	1,821
Water volume applied (GL)	716	1,296	..	3	716	1,293
Application rate (ML/hectare)	4.2	5.6	..	5.1	4.2	5.6

Source: Australian Bureau of Statistics (2017).

Water availability for irrigation varies by cane growing district. The St George region relies on the local Beardmore Dam, which is almost full, while the Leslie and Coolmunda dams in southern Queensland are below 30 percent capacity. Irrigation is more prevalent in some regions such as the Atherton Tablelands and may account for half of production in the Mackay and Bundaberg regions. Drier conditions in 2017/18 have led to increased water usage from reserves.

Consumption

Post expects domestic sugar consumption to be unchanged in 2017/18 at 1.2 million MT. There are no recent official statistics on consumption of sugar and private surveys are inconsistent. At the retail level, sugar competes with a range of other natural and artificial sweeteners, and its market share is determined by price competition, as well as consumer preferences for either sugar or artificial sweeteners. The introduction of a sugar tax to reduce average per capita sugar consumption in Australia has been repeatedly ruled out by the Australian government, but a campaign to introduce such a tax was revived in September 2017.

The food and beverage manufacturing industry is the major user of sugar domestically. Around 80 percent of raw and then refined sugar produced for the domestic market is used in a wide range of products, including soft drinks, alcoholic beverages, confectionary and other processed foods. A relatively small quantity of raw and refined sugar products is imported for use by the manufacturing industry. The other 20 percent of raw sugar produced for the domestic market is used to produce refined sugar and other sugar products that are packaged for retail sale (mainly in supermarkets) or sold to the food service industry, typically in larger packs.

Trade

Post forecasts sugar exports from Australia in 2017/18 will be be stable at 3.7 million MT, the same as the official forecast. Australia is one of the largest sugar exporters in the world and its major markets are China, Indonesia, Japan, Korea, Malaysia, Taiwan, the United States and New Zealand. Australia has the capacity to store over 2 million MT of sugar in a network of bulk port terminals, which allows it to supply customers throughout the year. Up-to-date official statistics on sugar exports by country are unavailable due to confidentiality provisions.

Production, Supply and Demand (PS&D) Estimates

Production, Supply and Demand (PS&D) Estimates for sugar cane and centrifugal sugar produced from sugar cane are given in Tables 3 and 4 below.

Table 3: Production, Supply and Demand: Cane for Centrifugal Sugar ('000 ha and '000 MT)

Sugar Cane for Centrifugal	**2015/2016**		**2016/2017**		**2017/2018**	
Market Begin Year	July 2015		July 2016		July 2017	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	390	390	400	400	410	400
Production	33,000	33,000	34,000	34,000	32,000	34,000
Total Supply	33,000	33,000	34,000	34,000	32,000	34,000
Utilization for Sugar	33,000	33,000	34,000	34,000	32,000	34,000
Utilization for Alcohol	0	0	0	0	0	0
Total Utilization	33,000	33,000	34,000	34,000	32,000	34,000
(1000 HA), (1000 MT)						

Note: 'New Post' data reflect author's assessments and are not official data.

Table 4: Production, Supply and Demand: Centrifugal Sugar ('000 MT)

Sugar, Centrifugal	2015/2016		2016/2017		2017/2018	
Market Begin Year	July 2015		July 2016		July 2017	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	140	140	230	230	220	220
Beet Sugar Production	0	0	0	0	0	0
Cane Sugar Production	4,900	4,900	5,100	5,100	4,800	4,800
Total Sugar Production	4,900	4,900	5,100	5,100	4,800	4,800
Raw Imports	30	30	30	30	30	30
Refined Imports (Raw Value)	60	60	60	60	60	60
Total Imports	90	90	90	90	90	90
Total Supply	5,130	5,130	5,420	5,420	5,110	5,110
Raw Exports	3,500	3,500	3,800	3,800	3,500	3,500
Refined Exports (Raw Value)	200	200	200	200	200	200
Total Exports	3,700	3,700	4,000	4,000	3,700	3,700
Human Domestic Consumption	1,200	1,200	1,200	1,200	1,200	1,200
Other Disappearance	0	0	0	0	0	0
Total Use	1,200	1,200	1,200	1,200	1,200	1,200
Ending Stocks	230	230	220	220	210	210
Total Distribution	5,130	5,130	5,420	5,420	5,110	5,110
(1000 MT)						

Note: 'New Post' assessments are not official data.