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Australia

Grain and Feed Update

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Report Highlights:

Post forecasts Australian 2018/2019 wheat production at 18 million metric tons (MMT) as hot conditions and low rainfall prevail in eastern Australia. Barley production is forecast to decline to 7.8 MMT due to poor seasonal conditions, the same as the official forecast. Sorghum production has been downgraded to 1.6 MMT in 2018/19 in response to very low rainfall and poor soil moisture. Rice production is forecast to decline to 0.4 MMT in 2018/19 due to high water prices. Most of eastern Australia is in a drought, resulting in higher feed grain prices. Seasonal conditions in Western Australia are more favorable and a higher share of exports is expected to be sourced from this state.

Post: Canberra

Commodities: Wheat, Barley, Sorghum, Rice

EXECUTIVE SUMMARY

The winter crop forecast for eastern Australia has suffered because of the worsening drought. Low rainfall during autumn was followed by even lower rainfall in spring; with September the lowest on record. By contrast, more favorable seasonal conditions in Western Australia have supported larger wheat and barley production. Overall, wheat production for 2018/19 is forecast to decline to 18 MMT, slightly below the revised official forecast of 18.5 MMT. Barley production in 2018/19 is forecast at 7.8 MMT, the same as the official forecast.

The outlook for summer crops depends on rainfall amounts in the next couple of months given the low soil moisture profile, after a drier than average autumn. As a result of the worsening drought, the forecast for sorghum production in 2018/19 has been revised down to 1.6 MMT, 26 percent below the official forecast. The expected harvested area has been revised from 680,000 hectares to 570,000 hectares. Rice production continues to be constrained by higher water prices and competition from other crops, including cotton. Rice production in 2018/19 is forecast at 0.40 MMT, 11 percent below the official forecast due to high water prices.

On the east coast of Australia, grain prices are near 10-year highs and severe grain and hay shortages have already occurred as a result of the dry and hot conditions. To reduce the supply shortage, grain has been transported to livestock feedlots in Queensland and northern New South Wales (NSW), from Victoria and southern NSW. In 2018/19, Post expects that high domestic feed prices in eastern Australia will limit wheat exports from this region. Western Australia's share of Australia's total exports is expected to increase from 40 percent to over 70 percent of total wheat exports and half of barley exports.

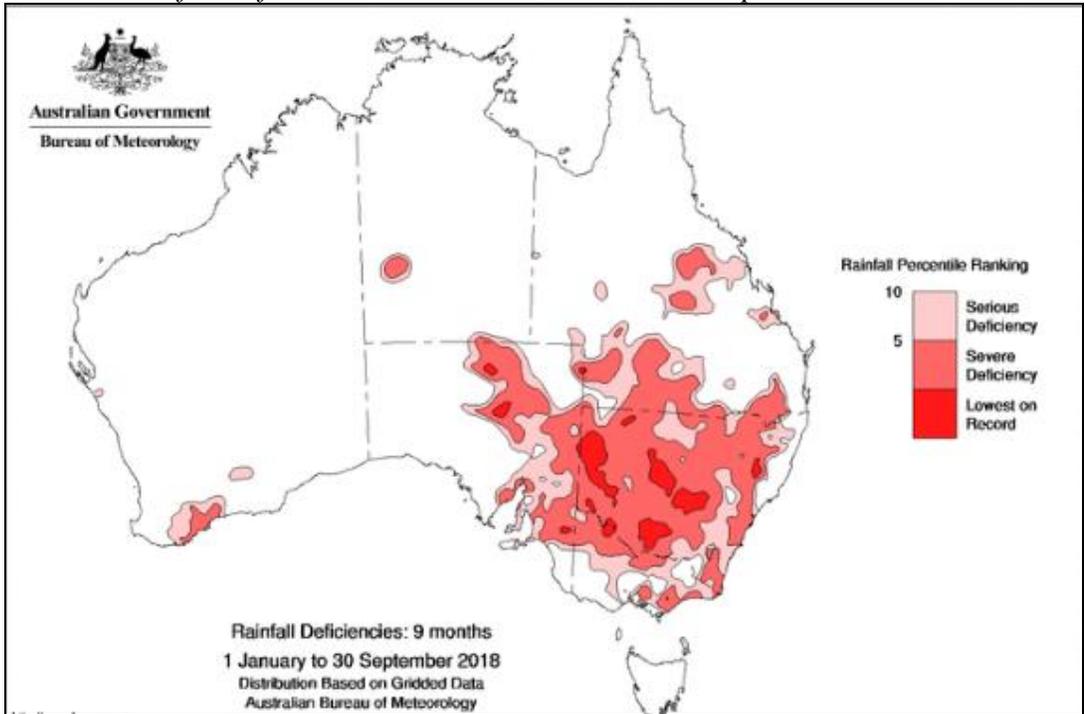
SEASONAL OUTLOOK

Many cropping regions in eastern Australia in 2018 received very low rainfall and experienced above average temperatures, which severely impacted the growing season (chart 1). Australia experienced its driest September on record in 2018 and the outlook for the next three months is for worsening conditions according to the Bureau of Meteorology (BOM). These drought conditions in eastern Australia have contributed to very low soil moisture and poor pasture growth. The BOM's 3-month forecast to January 2019 suggests that low rainfall patterns will continue into next year (chart 2).

Currently, all of NSW, two thirds of Queensland, parts of Victoria and all of South Australia are experiencing drought conditions. Soil moisture levels across large areas of eastern Australia have limited pasture growth rates and fodder production capacity. Stock feed is in short supply across all eastern states and crops are increasingly being baled because of the poor seasonal outlook and high prices for livestock feed.

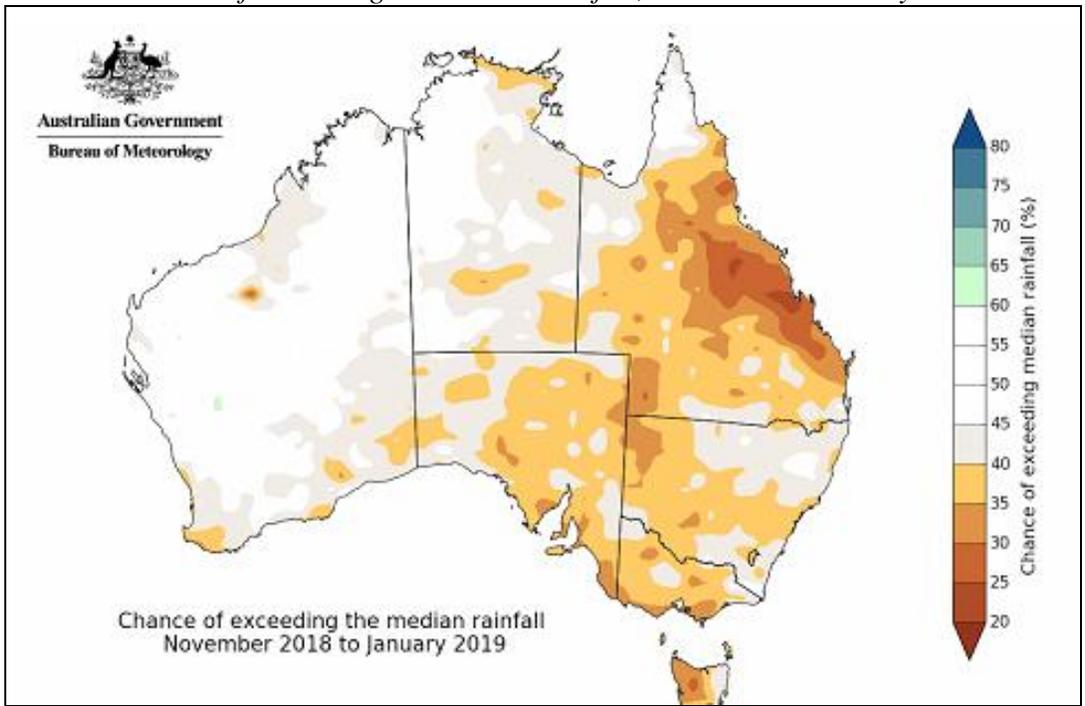
Although world prices for wheat and barley are significantly below the Australian domestic price, the domestic livestock sector has not made any push to capitalize on less costly imported grain and non-grain feeds. Importing whole grain products is difficult due to Australia's stringent biosecurity regulations, although limited exceptions have been made in previous drought periods to relieve the domestic supply shortage.

Chart 1: Rainfall deficiencies in Australia, 9 months to September 2018



Source: Bureau of Meteorology (October, 2018)

Chart 2: Chance of exceeding the median rainfall, 3 months to January 2019



Source: Bureau of Meteorology (October, 2018)

WHEAT

Production

Australian wheat production is forecast at 18 MMT for 2018/19, slightly below the revised official forecast of 18.5 MMT as a result of very dry and hot conditions across major wheat growing areas. The harvested area is expected to be stable at 11 million hectares. Very dry and hot conditions in eastern Australia reduced both expected production and likely yields. Yield is forecast at 1.63 tons per hectare, 19 percent below the 5-year average. The poor condition of existing crops and the continuing drought conditions mean that an increasing share of the wheat crop, especially in NSW, will be cut for feed. Post has increased the proportion of feed wheat to 6 MMT due the seasonal outlook and the current high domestic prices for livestock feed (see table 1).

Table 1: Feed prices for livestock industries, October 2018

Region	Grain prices (A\$/MT)			Hay prices (A\$/MT)	
	Wheat	Barley	Sorghum	Cereal Hay	Lucerne Hay
North Queensland	495	615	455	-	-
Darling Downs	480	465	440	600	600
North NSW	475	465	440	600	750
Central NSW	410	400	425	550	600
Victoria/Gippsland	480	495	585	550	600
Southwest Victoria	440	425	595	350	420
South Australia	400	370	505	400	500
Tasmania	505	515	620	250	350

Source: Dairy Australia (October, 2018)

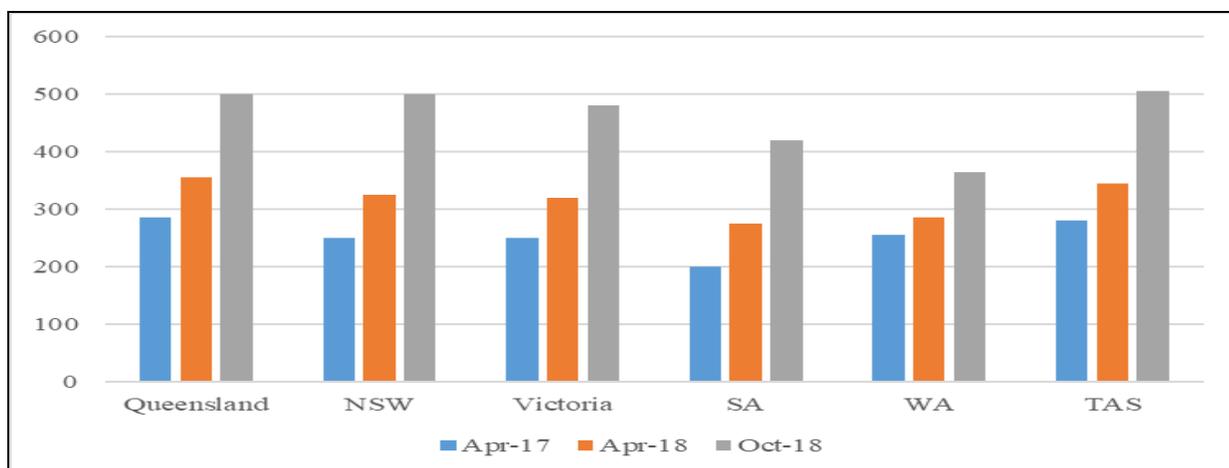
Wheat is the major winter crop in Australia, with sowing starting between April and July. The main producing states are Western Australia, NSW, South Australia, Victoria, and Queensland. Central Queensland's harvest starts in August and progresses down the east coast to Victoria, and ends in January. On the west coast, the wheat harvest starts in October and is completed during January.

Western Australia usually accounts for over 40 percent of exports, while a greater proportion of the east coast wheat harvest is consumed domestically. Post expects Western Australia's share of exports will rise to more than 70 percent in 2018/19 as the exportable surplus declines and a rising share of wheat produced in other parts of the country are consumed in the domestic feed market.

Consumption

Wheat domestic consumption is estimated at 9.5 MMT for 2018/19 due to a significant shortage of grains for livestock production caused by poor pasture and dry conditions across eastern Australia. This situation has led to a sharp rise in domestic feed grain and hay prices in eastern Australia (see chart 3 below). Higher domestic consumption is expected to come primarily from increasing feed grain demand, which is expected to rise to 6 MMT while human wheat consumption is expected to remain stable at 3.5 MMT.

Chart 3: Changes to feed wheat prices across Australia, 2017 to 2018 (A\$/MT)



Source: Australian Department of Agriculture and Water Resources (2018)

Trade

Australian wheat exports are forecast to decline to 12 MMT for 2018/2019, reflecting lower production caused by the drought and high prices for domestic feed grains and hay. Chart 4 provides a comparison of domestic and international wheat and coarse grains prices since 2016, which illustrates the sharp rise in domestic feed grain prices compared to world prices. In the first 6 months of 2018, Australian wheat exports fell to 5.1 MMT, well below the level of the same period in the previous year.

Details of Australian wheat exports are shown in Table 2. Currently, biosecurity regulations prevent imports of wheat and coarse grains, but current price trends suggest that imports of these feed grains could be commercially justified because of the drought.

Table 2: Australian exports of wheat by selected country, 2011-2018 ('000 MT and US\$/MT)

Country	2011	2012	2013	2014	2015	2016	2017	2018 (a)
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<i>Indonesia</i>								
('000 MT)	3,593	4,594	3,665	4,072	4,153	3,469	5,170	842
(US\$/MT)	325	299	317	280	250	210	202	224
<i>China</i>								
('000 MT)	794	2,283	870	1,198	1,378	1,499	1,712	345
(US\$/MT)	279	259	314	296	258	219	192	244
<i>Vietnam</i>								
('000 MT)	2,403	1,994	1,347	1,377	1,306	1,507	1,913	426
(US\$/MT)	298	284	326	292	254	220	217	227
<i>Philippines</i>								
('000 MT)	1,281	1,675	355	550	673	1,026	1,941	606
(US\$/MT)	259	267	330	286	254	214	191	223
<i>World</i>								
('000 MT)	19,733	23,576	18,037	18,276	17,073	16,137	22,005	5,147
(US\$/MT)	320	288	331	294	259	224	211	240

Note: (a) first six months of 2018. Source: Global Trade Atlas

Table 3: Production, Supply and Demand Estimates: Wheat ('000 HA and '000 MT)

Wheat	2016/2017		2017/2018		2018/2019	
Market Begin Year	October 2016		October 2017		October 2018	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	12,191	12,191	12,250	12,250	11,000	11,000
Beginning Stocks	3,854	3,854	5,723	5,723	5,398	5,198
Production	31,819	31,819	21,300	21,300	18,500	18,000
MY Imports	144	144	150	150	150	150
TY Imports	154	154	155	150	150	150
TY Imports from U.S.	2	2	2	0	0	0
Total Supply	35,817	35,817	27,173	27,173	24,048	23,348
MY Exports	22,644	22,644	14,500	14,500	13,000	12,000
TY Exports	22,061	22,061	15,512	15,512	13,000	12,000
Feed and Residual	4,000	4,000	3,800	4,000	4,200	6,000
FSI Consumption	3,450	3,450	3,475	3,475	3,500	3,500
Total Consumption	7,450	7,450	7,275	7,475	7,700	9,500
Ending Stocks	5,723	5,723	5,398	5,198	3,348	1,848
Total Distribution	35,817	35,817	27,173	27,173	24,048	23,348
Yield	2.61	2.61	1.7388	1.7388	1.6818	1.6364

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

Note: 'New Post' data reflects FAS/Canberra's assessment and is not official data.

BARLEY

Production

Barley production in 2018/19 is forecast at 7.8 MMT as a result of hot and dry conditions in many growing areas. This is the same as the official forecast. These conditions are expected to lower yields and reduce the harvest area for barley in most states except for Western Australia. Yield is forecast at 1.95 tons per hectare, 14 percent below the yield achieved in the 2017/18 national harvest. Drought across eastern Australia during late autumn and early winter restricted planting opportunities for barley, due to low soil moisture.

Barley is usually sown in May and harvested in November. The crop grows through Australia's winter months, typically in rotation with wheat, canola, oats, and pulses. Western Australia normally accounts for one third of production, but this share is expected to exceed 50 percent in 2018/19. One third of barley is generally used in Australia for food and beer production, animal feed, and seed cultivation. The remainder is exported with around 50 percent used as feed barley, one third as malting barley, and the rest for beer or spirits.

Consumption

Post forecasts domestic consumption of barley to increase to 3.5 MMT in 2018/19, especially feed barley, in response to the drought in eastern Australia. Barley in Australia is used to produce distilled spirits and in traditional and craft beer production. Barley is also used as feed grain for domestic and overseas livestock industries. Demand for malt barley is increasing and is used primarily to produce alcohol and food including confectionary, snack foods, breakfast cereals, miso, and tea.

Table 4: Australian exports of barley, 2011-2018 ('000 MT and US\$/MT)

Country	2011	2012	2013	2014	2015	2016	2017	2018 (a)
China	1,268	2,102	1,766	4,377	3,586	3,516	5,603	484
(US\$/MT)	301	273	297	259	255	193	180	220
Saudi Arabia	1,667	1,153	1,702	471	525	304	739	0
(US\$/MT)	272	259	275	253	182	181	161	0
Japan	962	769	967	605	217	1,058	876	55
(US\$/MT)	292	265	293	262	273	194	188	201
World	5,058	5,111	5,121	6,123	5,188	5,857	8,859	2,988
	282	267	289	259	255	193	182	215

Note: (a) first six months of 2018. Source: Global Trade Atlas

Trade

Barley exports are forecast at 5 MMT in 2018/19, 14 percent below official estimates, due to a shortage of feed grain and hay in eastern Australia, which has led to very high domestic prices. China is the leading export destination, followed by Japan and Saudi Arabia. In the first 6 months of 2018, Australian exports of barley fell to 3 MMT, significantly below the same period of the previous year. Australian barley exports from 2011 to early 2018 are shown in Table 4 above.

Table 5: Production, Supply and Demand Estimates: Barley ('000 HA and '000 MT)

Barley	2016/2017		2017/2018		2018/2019	
Market Begin Year	November 2016		November 2017		November 2018	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	4,834	4,834	3,900	3,900	4,000	4,000
Beginning Stocks	1,068	1,068	1,884	1,884	1,184	984
Production	13,506	13,506	8,900	8,900	7,800	7,800
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imports from U.S.	0	0	0	0	0	0
Total Supply	14,574	14,574	10,784	10,784	8,984	8,784
MY Exports	9,190	9,190	6,500	6,500	5,800	5,000
TY Exports	9,192	9,192	6,500	6,500	5,800	5,000
Feed and Residual	2,200	2,200	1,800	2,000	1,200	2,200
FSI Consumption	1,300	1,300	1,300	1,300	1,300	1,300
Total Consumption	3,500	3,500	3,100	3,300	2,500	3,500
Ending Stocks	1,884	1,884	1,184	984	684	284
Total Distribution	14,574	14,574	10,784	10,784	8,984	8,784
Yield	2.79	2.79	2.28	2.28	1.95	1.95

Note: 'New Post' data reflects FAS/Canberra's assessment and is not official data.

SORGHUM

Production

As a result of the worsening drought, the forecast for sorghum production in 2018/19 has been revised down to 1.6 MMT, 18 percent below the official forecast. The expected harvested area has been revised from 680,000 hectares to 570,000 hectares. Currently, soil moisture is very low in northern NSW and southern Queensland, but if timely and extended rainfall occurs during the extended planting window for sorghum, these forecasts could be revised upwards. Sorghum planting has begun in Queensland as farmers take advantage of moisture from the late August storms in areas such as Mungindi and Garah. In addition, reasonable rainfall occurred in early October in some regions.

Sorghum traditionally has been regarded by many growers as an opportunity crop, grown only when rainfall allows, and primarily for stock feed. As a result, sorghum plantings historically have varied greatly with rainfall levels. Planting of sorghum is primarily located across Queensland and in northern NSW, which begins in October for NSW, but extends to February for central Queensland. Harvest normally occurs from February to August. Sorghum competes with a number of other summer crops, including cotton, mung beans, and maize, but it has an advantage in some regions due to the plant's higher drought tolerance.

Consumption

Australian domestic sorghum consumption in 2018/19 is forecast at 1 MMT in line with higher use of sorghum in the domestic feed market. Sorghum has traditionally been used domestically for feed grain in the beef, dairy, swine, and poultry industries. Around 0.2 MMT of sorghum is processed into biofuel in Queensland.

Trade

Post forecasts sorghum exports at 0.7 MMT in 2018/19, mainly to China. This is significantly below the official forecast because most sorghum is expected to be used domestically due to the drought. The high domestic price of sorghum for the livestock market is expected to reduce the exportable surplus in 2018/19. Export demand for sorghum has varied in recent years as shown in Table 6.

Table 6: Production, Supply and Demand Estimates: Sorghum ('000 HA and '000 MT)

Sorghum	2016/2017		2017/2018		2018/2019	
Market Begin Year	March 2017		March 2018		March 2019	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	368	368	531	531	680	570
Beginning Stocks	233	233	272	272	261	261
Production	994	994	1,439	1,439	1,950	1,600
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imports from U.S.	0	0	0	0	0	0
Total Supply	1,227	1,227	1,711	1,711	2,211	1,861
MY Exports	280	280	650	650	1,400	700
TY Exports	542	542	300	300	1,500	700
Feed and Residual	475	475	600	600	500	800
FSI Consumption	200	200	200	200	200	200
Total Consumption	675	675	800	800	700	1,000
Ending Stocks	272	272	261	261	121	161
Total Distribution	1,227	1,227	1,711	1,711	2,211	1,861
Yield	2.70	2.70	2.71	2.71	2.87	2.81

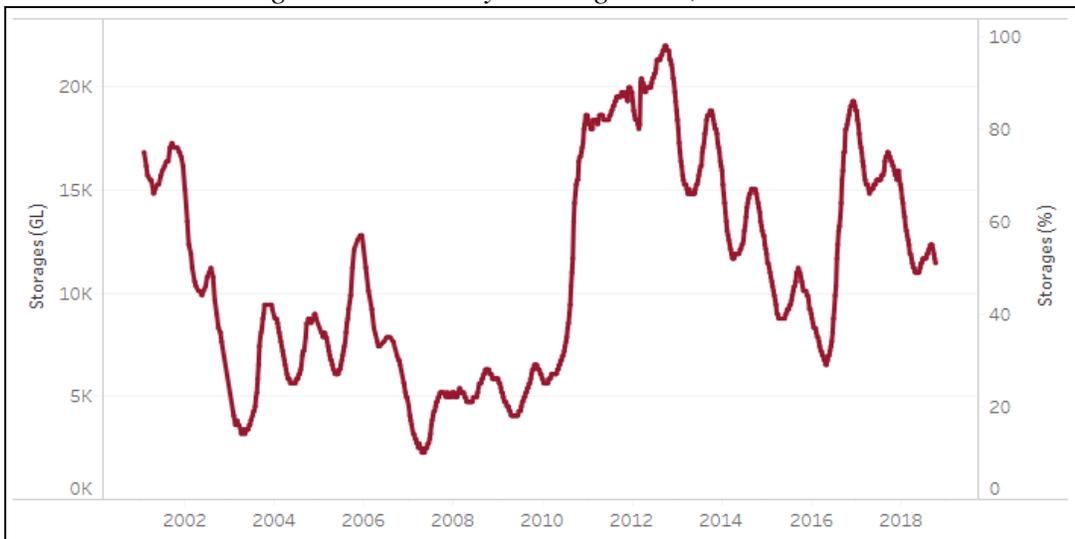
Note: 'New Post' data reflects FAS/Canberra's assessment and is not official data.

RICE

Production

Rice production continues to be constrained by higher water prices and competition from other crops, including cotton. Australia's rice production in 2018/19 is forecast at 0.40 MMT, 2 percent below the official forecast because of higher water prices. The rice planting area is forecast to fall by 10 percent to 54,000 hectares in 2018/19 in response to reduced supplies of irrigation water. Water storage levels in the Murrumbidgee valley, the major water reserve for the Australian rice industry, have declined in recent months (see chart 5). When water prices are high, some rice farmers choose to sell their water quotas rather than plant rice.

Chart 5: Water storages in the Murray-Darling Basin, 2001-2018



Source: Australian Department of Agriculture and Water Resources (2018)

In Australia, rice is grown from October until March and in rotation with other crops such as wheat, barley, and maize, which utilizes the existing soil moisture from harvested rice crops. Rice growers are dependent upon adequate and well-priced water supply during the planting window. Most rice farmers receive their water as a comparatively low priority in the water allocation system and have their provisions reduced in times of water shortages. The Australian rice industry is developing full traceability capabilities to identify to specific fields for its customers.

Consumption

Post forecasts 2018/2019 rice consumption to be steady at 0.4 MMT. The Australian population is growing slowly and demand for rice products is comparatively mature.

Trade

In 2018/2019, rice exports are forecast at 0.225 MMT, below the official forecast of 0.25 MMT due to lower production. While official country data for exports is confidential, Papua New Guinea (PNG) has been the major market for exports, but demand has declined significantly in recent years. The main Australian producer, SunRice, has a number of overseas subsidiaries in six other countries to deal with domestic production variations and ensure supplies for its domestic and international markets.

Table 7: Production, Supply and Demand Estimates: Rice ('000 HA and '000 MT)

Rice, Milled	2016/2017		2017/2018		2018/2019	
Market Begin Year	March 2017		March 2018		March 2019	
Australia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	82	82	60	60	60	54
Beginning Stocks	77	77	208	208	177	177
Milled Production	581	581	454	454	410	400
Rough Production	807	807	631	631	625	556
Milling Rate (.9999)	7200	7200	7200	7200	7200	7200
MY Imports	161	161	155	155	160	160
TY Imports	164	164	155	155	160	160
TY Imports from U.S.	12	12	0	10	0	0
Total Supply	819	819	817	817	747	737
MY Exports	226	226	250	250	250	225
TY Exports	187	187	275	275	260	225
Consumption and Residual	385	385	390	390	400	400
Ending Stocks	208	208	177	177	97	112
Total Distribution	819	819	817	817	747	737
Yield (Rough)	9.84	9.84	10.52	10.52	10.35	10.30

Note: 'New Post' data reflects FAS/Canberra's assessment and is not official data.