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Brazil

Grain and Feed Update

Wheat Production Hampered by Dry Conditions and Sporadic Frosts, but Corn Output Set to Soar

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Report Highlights:

Market year 2018/19 corn production is forecast higher at 95 MMT based on an expected return to normal yields and expanded safrinha area in response to higher prices. Market year 2018/19 corn exports are also forecast higher, at 30 MMT. Market year 2018/19 milled rice production is forecast relatively unchanged at 8.16 MMT, based on a static forecast for area and normal yields. Market year 2018/19 wheat production is forecast at 5.2 MMT dry conditions and sporadic frosts in southern Brazil. Market year 2018/19 wheat imports are forecast at a stagnant 7 MMT.

Corn

Corn Market Begin Year	2016/2017		2017/2018		2018/2019	
	Mar 2017		Mar 2018		Mar 2019	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	17600	17600	16600	16650	17500	18000
Beginning Stocks	6769	6769	14019	14019	10519	13019
Production	98500	98500	82000	81500	94500	95000
MY Imports	854	854	1000	1000	1000	800
TY Imports	2439	2439	900	950	1000	900
TY Imp. from U.S.	1	1	0	1	0	0
Total Supply	106123	106123	97019	96519	106019	108819
MY Exports	31604	31604	22000	21000	29000	30000
TY Exports	19794	19794	24500	25000	25000	27000
Feed and Residual	51000	51000	55000	53000	56000	55000
FSI Consumption	9500	9500	9500	9500	10500	10500
Total Consumption	60500	60500	64500	62500	66500	65500
Ending Stocks	14019	14019	10519	13019	10519	13319
Total Distribution	106123	106123	97019	96519	106019	108819
Yield	5.5966	5.5966	4.9398	4.8949	5.4	5.2778

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

Corn Supplies

Market year (MY, March - February) 2017/18 corn production is estimated lower at 81.5 million metric tons (MMT), with the vast majority of the harvest having concluded by September. Market year 2017/18 production showed a reduction of 17 MMT, or 17.3 percent, compared to MY 2016/17. Meanwhile, MY 2017/18 harvested area is estimated to have been 16.65 million hectares, a decrease of 5.68 percent from the previous year. This was the largest relative decline in crop area since 2009/2010. The declines in area and production were due to the late planting of second-crop “safrinha” corn due to a late soybean harvest, reduced investment in crop inputs, as well as smaller area for both first- and second-crop corn. Additionally, dry conditions and sporadic frosts across large swaths of safrinha crop area significantly damaged yields.

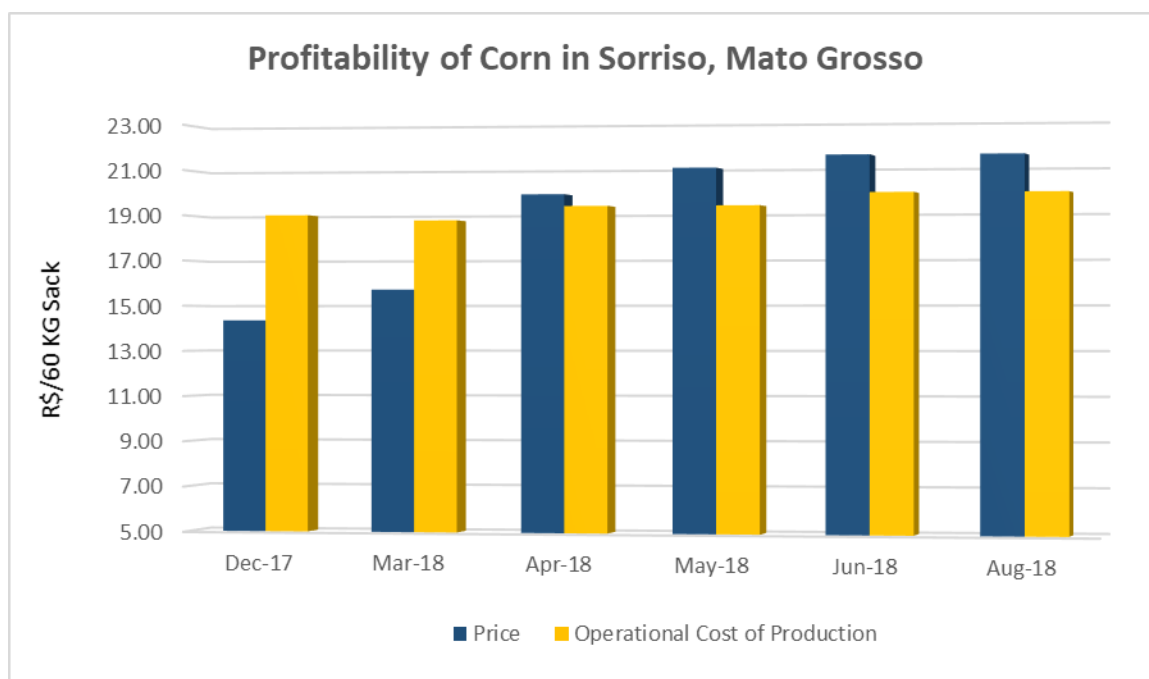
Market year 2018/19 production is forecast higher at 95 MMT based on an expected return to normal yields and expanded safrinha area in response to higher prices. Overall, corn area is forecast to increase to 18 million hectares, a net increase of about 1.35 million hectares over MY 2017/18. This forecast assumes prices will not drop significantly before safrinha planting begins in January.

First-crop area in MY 2018/19 is expected to remain roughly the same as last year, despite higher prices. First-crop corn competes with soybeans in southern and central Brazil and with cotton in the northeastern part of the country, both of which are crops that typically have greater liquidity, higher profitability, and stronger global market forces incentivizing production. While some states, including Parana and Rio Grande do Sul, are forecast to increase first-crop corn area, others are slated to further decrease acreage in favor of increased soybean area, resulting in an overall stagnation of first-crop corn area.

Meanwhile, MY 2018/19 area for second-crop corn is forecast to expand. A timely and quick start to soybean planting in Parana and Mato Grosso, barring adverse weather events in the soybean growing season, will likely lead to an early or at least timely soybean harvest. This in turn will allow more

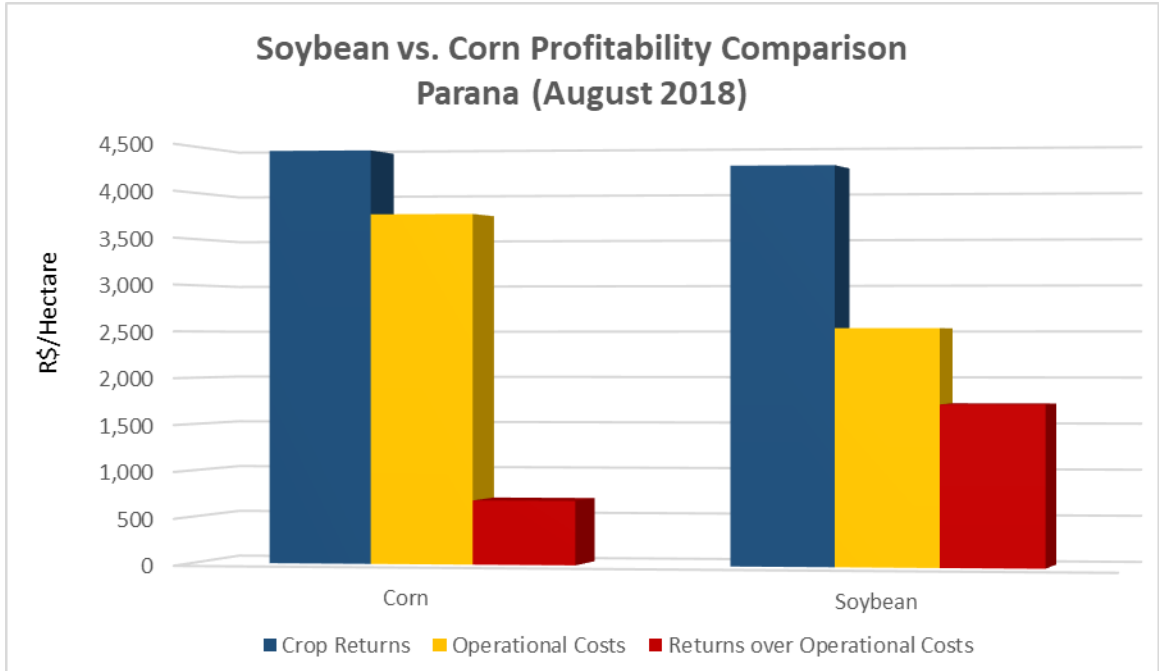
safrinha corn to be planted within the ideal window (by about February 20 in Mato Grosso and March 10 in Parana), thus optimizing crop development before the dry season begins.

The state of Mato Grosso is Brazil’s largest corn producer, responsible for almost one-third of total Brazilian production in MY 2017/18. While the cost of production in Mato Grosso has increased slightly since late 2017, corn prices have risen even more quickly, and producers in Mato Grosso confirmed this profitability (price less cost ratio) during recent crop travel. Soybeans account for the overwhelming majority of first-crop production in Mato Grosso, while second-crop production includes corn, cotton, edible beans, and pasture crops for cattle grazing. However, the high profitability of corn, relative ease of commercialization, lower input investment compared to cotton, and the fact that farmers can largely use the same equipment as soy for corn planting and harvesting, mean that corn will remain the most popular second crop by far.

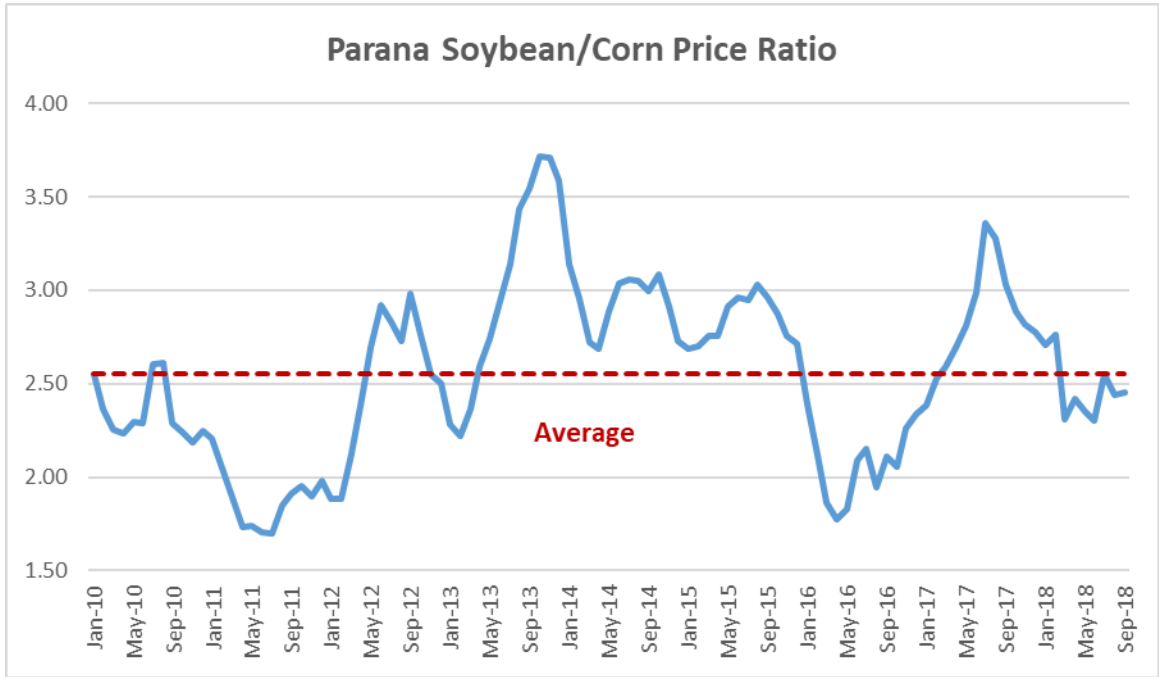


Price and Cost Data Source: CONAB

The profitability of corn is even more pronounced in southern Brazil, since producers in that region are significantly closer to port facilities and thus have to pay less for transportation of inputs to the farm and can get a higher price for commodities leaving the farm. In the state of Parana, Brazil’s second-largest corn producer, the profitability (price less cost ratio) for soybeans remains higher than that of corn, which restrains expansion of first-crop corn. However, farmers in Parana who are able to plant a second crop in the same year are likely to choose corn over alternate crops like edible beans or pasture due to corn’s high profitability. Corn in Parana has a higher profitability ratio than in Mato Grosso, where it must be discounted due to the high cost of transportation in that region. For example, in August, the profitability of corn in Sorriso, Mato Grosso, was 1.64 reals per 60-kilogram sack, while in Campo Mourao, Parana, the profitably was significantly higher at 7.05 reals per 60-kilogram sack.



Date Source: Parana Department of Rural Economy (DERAL)



Date Source: DERAL

Corn Trade

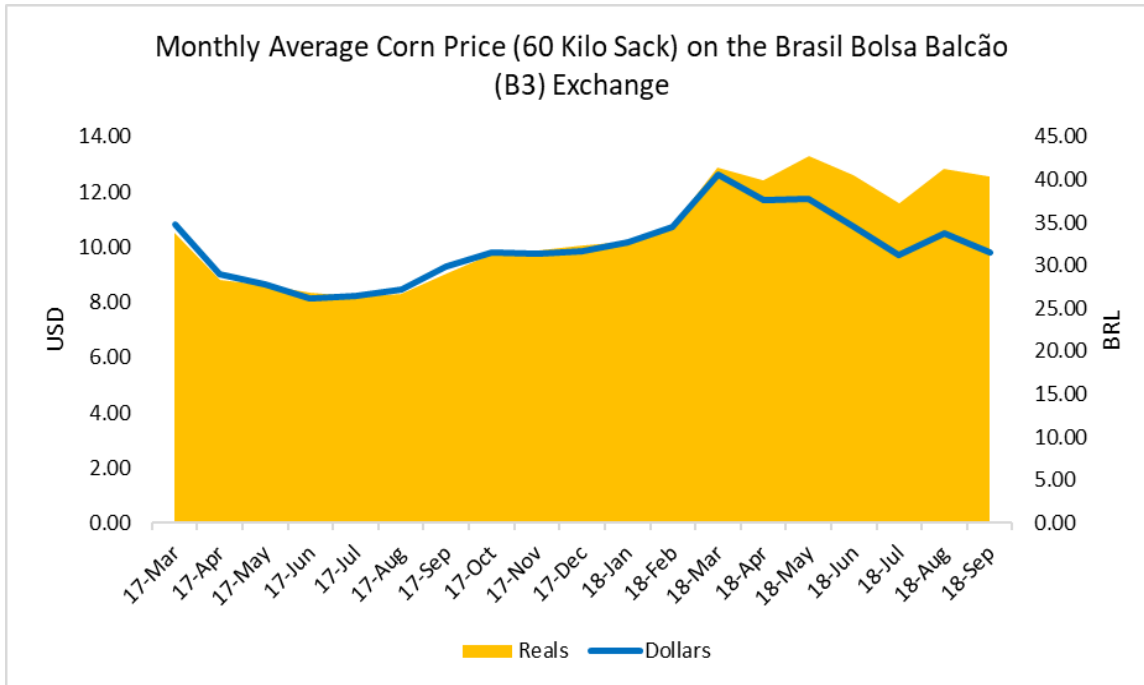
Market year 2017/18 exports are forecast lower at 21 MMT, in line with downwardly revised production estimates. Most safrinha corn has typically been bound for foreign markets, but exports this year have been hampered by limited supplies and continued uncertainty about the minimum freight rate law instituted after the 11-day truck driver strike in May. Brazil’s supreme court has twice delayed a decision on the constitutionality of the controversial law, which requires shippers to pay independent

truck drivers in accordance with minimum freight rate tables, as well as paying for the return trip for empty trucks that are not able to contract transport of return cargo. Brazil's National Confederation of Agriculture and the National Confederation of Industry continue to push for the minimum freight table law to be rescinded.

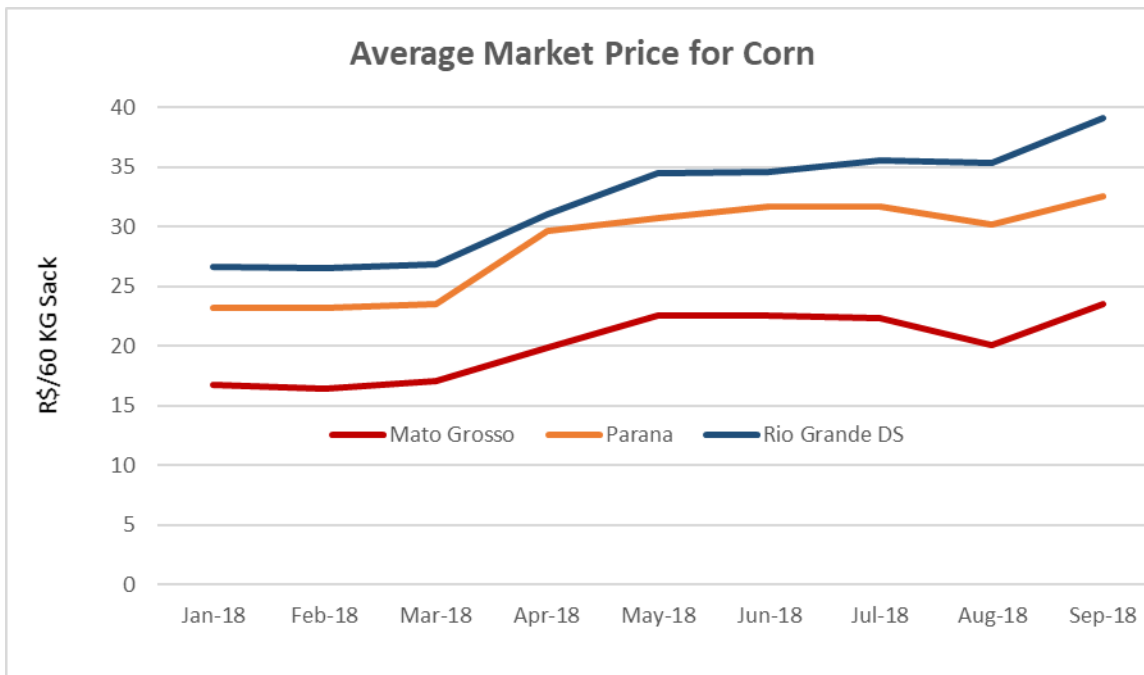
Under the new law, the National Land Transportation Agency (ANTT) issues minimum freight rate tables twice a year (January 20 and July 20) and can further adjust the tables if the price of diesel rises by more than 10 percent. This was the case in early September when ANTT raised minimum truck freight rates by an average of 5 percent, varying by location and type of cargo. Brazil's National Association of Grain Exporters (ANEC) said that the freight rate hike further squeezed exporter margins, which were already hovering around 1 percent. ANEC forecasts that the policy could cost Brazil's grain and oilseed sector an additional 3.4 billion reals (USD 86 million at current exchange rates) in the 2018/19 crop season. In late September, ANTT indicated that the provision for payment of the return trip for empty trucks could be negotiated with the carrier, a move that brought some relief to the Brazilian agricultural sector. However, the law as written does not allow for negotiating such contract provisions, and the situation has led to even more legal uncertainty about the policy's future. Brazil's supreme court is unlikely to rule on the subject until after the October presidential elections. In the meantime, many grain trading firms continue to look for alternative transportation options, such as investing in private truck fleets, to circumvent the minimum freight rate policy.

The minimum freight rate policy initially caused a substantial slowdown in the transportation of grains and oilseeds, as well as forward contracting for those commodities. However, continued strong international demand and the weakened Brazilian real (BRL) against the U.S. dollar eventually led trading companies to resume business, with some smaller operations reportedly negotiating rates and contract terms that do not comply with the law.

Market year 2018/19 exports are forecast at 30 MMT, a forecasted increase of more than 40 percent over the current MY, due to larger anticipated supplies and the ease of commercialization overseas due to the weakened BRL, which has decreased in value against the dollar by about 25 percent over the past 12 months. However, changes or clarifications on the minimum freight rate policy have the potential to significantly affect the competitiveness of Brazilian exports in either direction. Additionally, changes in the strength of the BRL against the U.S. dollar, especially pending the results of October's presidential election, could greatly affect commercialization of the MY 2018/19 crop. The weak BRL has led to a significant increase in the BRL price paid to producers, while the price in dollars has decreased since March 2018, as demonstrated in the graphs below. Still, electoral and market uncertainty has encouraged producers to lock in prices now.



Date Source: University of Sao Paulo Center for Advanced Studies in Applied Economics (CEPEA)



Market year 2017/18 imports are estimated slightly higher from the previous forecast but remain very small overall, at 950,000 MT. Market year 2018/19 imports are forecast slightly lower, at 900,000 MMT. Most of Brazil's corn imports are used by the livestock and poultry sector in southern Brazil. While Brazil on the whole produces much more corn than the country consumes domestically, the main producing areas have shifted in recent decades, with more corn grown in central Brazil and less in the south where the poultry and pork industries have traditionally been concentrated. This has led livestock

and poultry producers in southern Brazil to turn to duty-free corn imports from nearby Mercosul members, Paraguay and Argentina. It is much less expensive to move corn overland from Paraguay through a border crossing in the Foz de Iguacu region in the state of Parana or on water from Argentina through seaports in southern Brazil than it is to transport corn domestically from high-production areas in central Brazil. This is even truer with the effects of Brazil's minimum freight rate policy. For instance, the state of Santa Catarina, home to some of Brazil's largest poultry and swine operations, only produces about half as much corn as the industry requires for feed. Thus, Santa Catarina typically buys corn from neighboring states or imports it duty-free from another Mercosul country.

Corn Consumption

Market year 2017/18 consumption is estimated at 62.5 MMT, up 2 MMT from MY 2016/17. Likewise, MY 2018/19 consumption is forecast to grow by another 4.8 percent, to 65.5 MMT. Brazil's large poultry sector generally consumes a large portion of the corn crop each year. Despite setbacks caused by the truck driver strike in May and being forced to cull millions of birds, the poultry meat industry is on the rebound and is expected to grow by about 2.3 percent next year. Moreover, Brazil's egg production is soaring, growing by an estimated 5 percent this year.

At the same time, the corn ethanol industry continues to grow in central Brazil, where corn supplies are plentiful and relatively inexpensive. Corn ethanol production in 2018 is estimated at 830 million liters, up 58 percent from the 2017 level of 525 million liters. The industry is likely to continue expanding in the coming years, with several new corn-only ethanol plants slated to come on line in the near future. Post has heard reports that yet-to-open corn ethanol operations in Mato Grosso are already buying corn to be stored in newly constructed on-plant facilities.

The increase in corn ethanol production is causing competition over corn supplies for livestock and poultry producers in central Brazil. According to press reports, the CEO of one of Brazil's largest poultry producers has publically estimated that corn ethanol plants are already consuming 10-15 percent of corn supplies in some areas. As a result, more poultry and livestock operations are ramping up their use of dried distillers grains (DDGs), a protein-rich co-product of corn ethanol production. DDGs are reportedly competitive with soymeal as a feed ingredient, providing another option for the livestock and poultry sector and making corn ethanol even more profitable overall. Most corn ethanol produced in central Brazil is used in that region or sold to sparsely populated states in northern Brazil. To date, Brazil has not exported any corn ethanol.

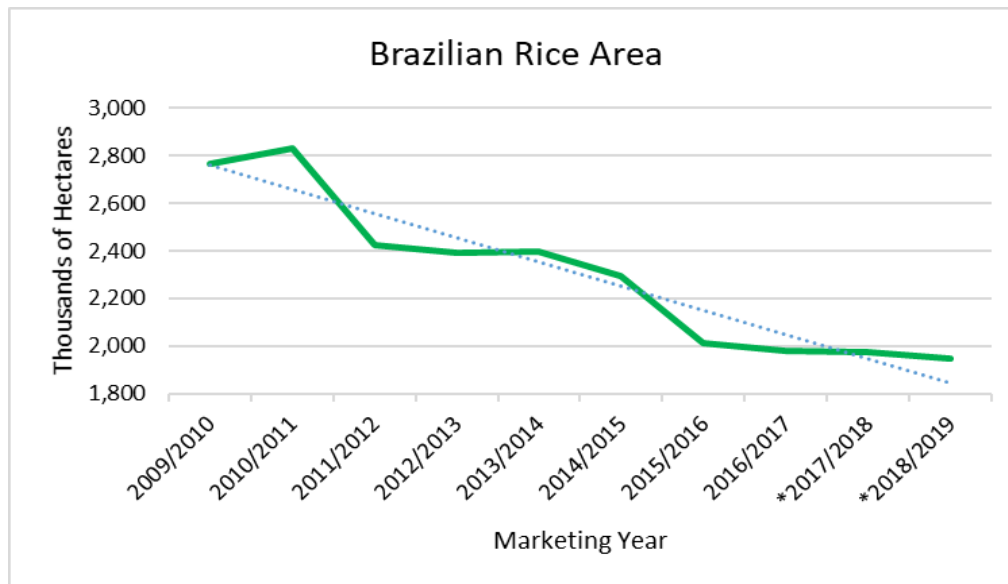
Rice

Rice, Milled Market Begin Year Brazil	2016/2017		2017/2018		2018/2019	
	Apr 2017		Apr 2018		Apr 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	1981	1981	1973	1976	1960	1975
Beginning Stocks	308	308	475	501	483	209
Milled Production	8383	8383	8208	8208	8024	8160
Rough Production	12328	12328	12071	12071	11800	12000
Milling Rate (.9999)	6800	6800	6800	6800	6800	6800
MY Imports	614	640	675	550	650	600
TY Imports	754	684	650	550	650	600
TY Imp. from U.S.	0	0	0	1	0	0
Total Supply	9305	9331	9358	9259	9157	8969
MY Exports	830	830	850	900	750	750
TY Exports	594	594	950	1000	750	750
Consumption and Residual	8000	8000	8025	8150	8050	8200
Ending Stocks	475	501	483	209	357	19
Total Distribution	9305	9331	9358	9259	9157	8969
Yield (Rough)	6.2231	6.2231	6.1181	6.1088	6.0204	6.0759

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

Rice Supplies

Market year 2017/18 (April 2018 – March 2019) milled rice production is estimated at 8.208 MMT, a slight 2-percent dip from MY 2016/17. Market year 2018/19 milled rice production is forecast relatively unchanged at 8.16 MMT, based on a static forecast for area and normal yields. More than 70 percent of Brazil’s rice production occurs in the southern state of Rio Grande do Sul, where rice is periodically rotated with soybeans to maintain soil quality. While Brazilian rice area has decreased by nearly 30 percent in the last decade, many analysts believe that it is unlikely to shrink much more without interfering with the crop rotation pattern most beneficial to the soil in southern Brazil. Despite the decrease in area, Brazil remains the world’s largest rice producer outside of Asia.



Date Source: USDA/FAS PSD Online

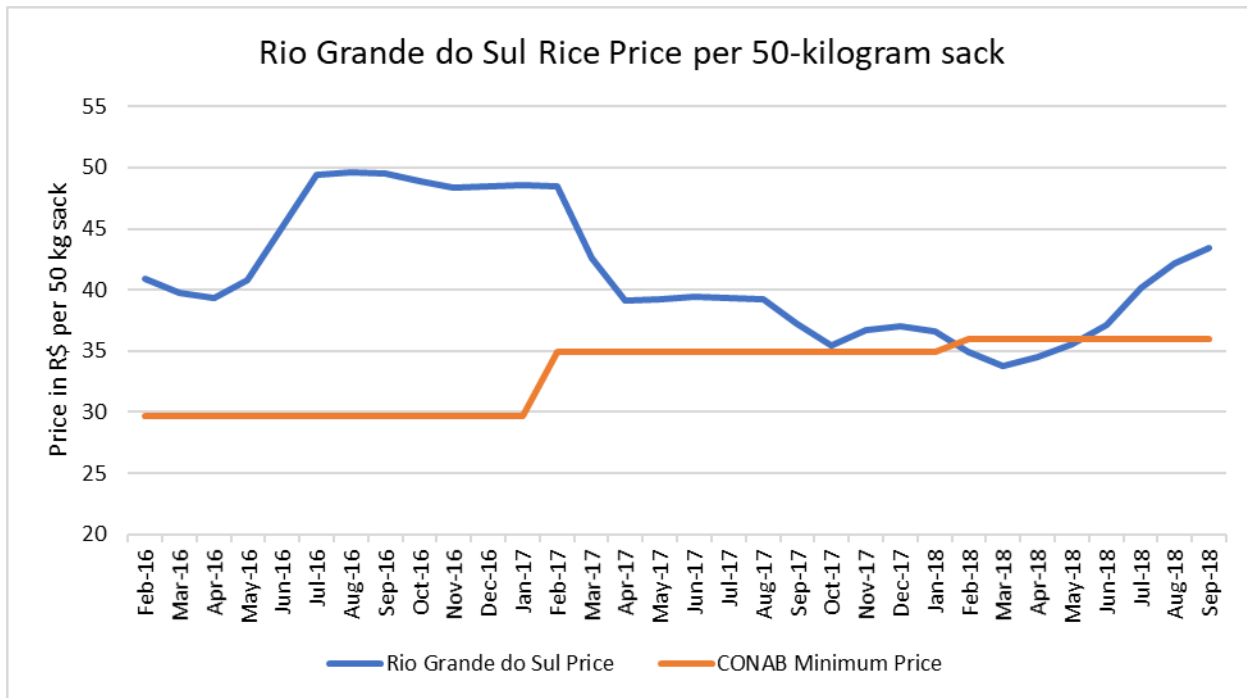
* Post estimate/forecast

According to the rice producers association of the state of Rio Grande do Sul (Fedearroz), the quality of the MY 2017/18 harvest was high, and as a result Brazilian exports have been fetching a premium in the region, especially for Central American buyers that demand quality supplies. Organizations like Fedearroz have worked with the Brazilian Agricultural Research Corporation (Embrapa) to improve the quality and efficiency of rice varieties produced in Brazil. A recent Embrapa study published in the journal *Crop Science* describes 45 years of work by the agency to increase rice yields while also reducing the amount of inputs demanded by the crop. In that time, Embrapa's research contributed to increased grain yields of 0.62-0.73 percent annually, while also reducing plant height and shrinking the period of time to flowering. Between 1972 and 2016, Brazilian rice varieties shrank from an average plant height of 38 inches to 32.5 inches. The architecture of shorter rice varieties allows for grain yields to increase without compromising the plant's structural stability. Likewise, plants with a shorter time to flowering use less water and inputs, allowing producers to economize resources.

Rice Trade

Market year 2017/18 imports are estimated at 550,000 metric tons (MT), a 19.5 percent decrease from MY 2016/17 levels, based on the pace of trade. The vast majority of Brazil's rice imports come in duty-free from its MERCOSUL neighbors: Paraguay, Uruguay, and Argentina, with nearly 60 percent of MY 2016/17 imports coming from Paraguay alone. Market Year 2018/19 imports are forecast at 600,000 MT to account for a small uptick in consumption based on population growth.

Market year 2017/18 exports are estimated at 900,000 MT on the pace of trade, about 8.4 percent higher than MY 2016/17. The elevated level of exports is due, at least in part, to support from the Brazilian Ministry of Agriculture (MAPA), which in December 2017 authorized the use of two programs to prop up slumping rice prices. The Ministry of Agriculture held seven rounds of auctions under these programs, supporting the sale of nearly 500,000 MT of rice, about 4 percent of the MY2017/18 harvest. In total, the Brazilian government spent over 31 million reais (\$8 million USD at current exchange rates). Market prices have climbed 28.5 percent since their March low point this MY. Under the Premium for Product Outflow (PEP) and Equalization Premium Paid to the Producer (PEPRO) programs, the Brazil government guarantees a minimum price to producers by paying the difference between the prevailing market price and the government-established minimum guaranteed price, either to the commercial buyer (under PEP) or directly to the producer (under PEPRO). There is no provision under PEP or PEPRO that restricts the auctioned commodity from being exported.



Date Source: CONAB

Rice Consumption

Market year 2017/2018 consumption is forecast at 8.15 MMT, slightly higher than MY 2016/17 consumption due to population growth. Market year 2018/2019 consumption is forecast to tick up to 8.2 MMT to meet the demands of a growing population. Rice is a staple food in Brazil, with many Brazilians consuming it with edible beans one to two times daily.

Wheat

Wheat Market Begin Year	2016/2017		2017/2018		2018/2019	
	Oct 2016		Oct 2017		Oct 2018	
Brazil	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	2120	2120	1916	1916	2000	2040
Beginning Stocks	996	996	2256	2256	1270	1285
Production	6730	6730	4264	4264	4700	5200
MY Imports	7349	7349	7000	7000	7500	7000
TY Imports	7788	7788	6702	6702	7500	7000
TY Imp. from U.S.	1321	1321	186	162	0	100
Total Supply	15075	15075	13520	13520	13470	13485
MY Exports	619	619	250	235	300	500
TY Exports	608	608	245	245	300	500
Feed and Residual	800	800	500	500	500	500
FSI Consumption	11400	11400	11500	11500	11600	11600
Total Consumption	12200	12200	12000	12000	12100	12100
Ending Stocks	2256	2256	1270	1285	1070	885
Total Distribution	15075	15075	13520	13520	13470	13485
Yield	3.1745	3.1745	2.2255	2.2255	2.35	2.549

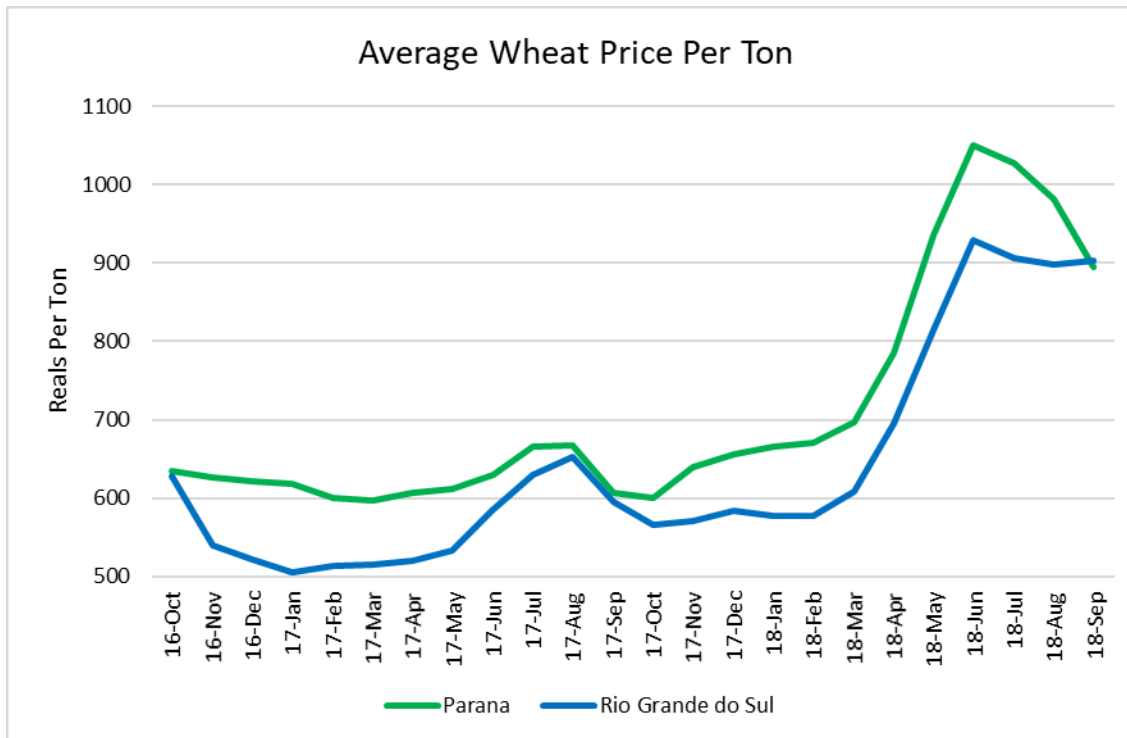
(1000 HA) ,(1000 MT) ,(MT/HA)

Wheat Supplies

Market year (October – September) 2018/19 wheat production is forecast at 5.2 MMT, down 300,000 MT from post's last forecast in July 2018. The reduction is due to dry conditions and sporadic frosts in the southern states of Parana and Rio Grande do Sul, Brazil's largest and second-largest producers, respectively. Together, Parana and Rio Grande do Sul account for roughly 85 percent of total Brazilian production. Early in the season, production was also hindered by dry conditions during planting and delayed deliveries of inputs like fertilizers, as a result of the May truck driver strike and resulting minimum freight rate law. These factors have led to some concerns about the quality of this year's crop. Despite the lowered expectations for the current crop, the forecast harvest still represents a 22-percent increase over the MY 2017/18 harvest, which suffered severely from adverse weather conditions.

While some MY 2018/19 wheat harvesting began in September, much of the harvest will be later in the season, around November-December, due to late planting. One Parana agricultural cooperative, Ocepar, estimates that the harvest was about 15 percent complete in that state as of late September.

Market year 2018/19 area is estimated at just over 2 million hectares, a 6.5 percent increase from last year. This expansion was largely driven by high domestic prices at the time of planting (April-June). However, unlike much of Brazil's cotton and soybean production, very little wheat is forward contracted, a problem for wheat producers since wheat prices have been declining since their high point in June.



Date Source: University of Sao Paulo Center for Advanced Studies in Applied Economics (CEPEA)

In the long term, the Brazilian Ministry of Agriculture (MAPA) hopes to see expanded wheat production in central Brazil. Embrapa, the Brazilian Agricultural Research Corporation, has worked in recent years to develop new varieties to tolerate the dryer conditions in this region. The Ministry of Agriculture optimistically forecasts Brazilian wheat production to virtually double to 10 MMT in the next decade. Despite this, infrastructure issues and a lack of milling capacity continues to hamper expansion of wheat in the Center-West.

Wheat Trade

Market year 2017/18 imports are estimated at 7 MMT on near-final trade data, down almost 5 percent from MY 2016/17 due to the weakened purchasing power of the Brazilian real. Market year 2017/18 exports are also lowered to 235,000 MT on near-final trade data. Brazil generally has extremely limited exports in years when production is below 5 MMT (MY 2017/18 production was 4.264 MMT).

Imported wheat makes up roughly half of Brazil's domestic consumption, with most imports being duty-free purchases from Mercosul partner Argentina. In December 2017, MAPA published a new set of regulations to allow the importation of Russian wheat for the first time in recent years. The move was part of a political calculus to regain market access for Brazilian pork in Russia. Unmilled Russian wheat had been banned for import in Brazil for phytosanitary reasons, but the new regulation allows imports for mills located close to ports. In August 2018, Brazil imported 26,230 MT of Russian wheat, the first such purchase since 2010. The cargo was reportedly purchased at a large discount (even considering freight and import tariffs) compared to Argentine wheat available at the time as a result of unusual market dynamics. Argentine exporters reportedly dropped their prices drastically after the Russian purchase. Many analysts think that Russian wheat prices are too high currently to expect additional sales to Brazil. However, they caution that Russia could be competitive again in the Brazilian market

around June-July 2019. Additionally, Lithuania is reportedly on the verge of gaining approval for market access in Brazil.

Argentina traditionally supplies the overwhelming majority of Brazilian wheat imports, accounting for nearly 90 percent of total imports in MY2017/18 (as of August 2018). By comparison, the second-largest supplier in MY 2017/18 was the United States, accounting for just 3.44 percent of Brazilian imports through August 2018.

Recently, in an effort to increase government revenue, Argentina announced a plan to impose export taxes on a wide range of products, including agricultural commodities like wheat. Under the new Argentine government decree, wheat exports will be taxed 4 Argentine pesos per U.S. dollar of value. As of September, this variable export tax amounted to approximately 10.8 percent based on the exchange rate. This is significant because it would apply to the large volume of wheat exports that Argentina sends to Brazil, which are normally duty-free under Mercosul. As of August 2018, 47 percent of Argentine wheat exports went to Brazil during Brazilian MY 2017/18. Brazil applies the 10-percent Mercosul common external tariff for wheat imports from non-Mercosul countries, including the United States. Thus, Argentina's new export tax scheme has the potential to affect its competitiveness and market share in Brazil, potentially making U.S. wheat more competitive. However, so far it seems that Argentine exporters will absorb the cost of the export tax rather than raising prices on Brazilian buyers. Ultimately, it is expected that Argentine producers will bear the brunt of the export tax. FAS/Argentina forecasts an increase in Argentine wheat production for the coming market year, so Argentine producers will likely be looking for ways to retain or grow market share in Brazil despite the export tax. Post will continue to monitor the situation for its effect on the Brazilian wheat market and competitiveness of American wheat in the country.

Market year 2018/19 imports are forecast at a stagnant 7 MMT, to compliment an expected return to normal yield and production levels with a modest rise in consumption. Market year 2018/19 exports are forecast at 500,000 MT, as the country is expected to have production of greater than 5 MMT next year. Brazil is a negligible exporter of wheat, with small quantities of unmilled wheat exported mainly to Asian counties like Vietnam and small volumes of wheat flour and pasta exported to Venezuela.

Wheat Consumption

Consumption for MY 2017/18 (ending September 2018) is estimated slightly lower than the previous year, at 12 MMT, based on the low level of domestic production and the slower pace of trade. Market year 2018/19 consumption is forecast to grow to 12.1 MMT, a modest increase of less than 1 percent, in line with expected population growth and economic recovery.

The Brazilian baking sector has reported that consumption of industrially produced bread in Brazil grew by double-digits in the years prior to Brazil's recent economic recession, but had stagnated in recent years. Since 2015, sales of industrially produced bread have slumped, according to the Brazilian Association of Cookie, Pasta, Bread, and Cake Producers (ABIMAPI). The industry is optimistic that the growth of bread consumption will accelerate in the coming year, as Brazil continues its climb out of recession. Of course, there remains a great deal of economic and political uncertainty that could affect this prediction.

Brazil generally imports higher-quality wheat so that millers can blend it with domestic supplies to achieve the desired flour quality and protein levels demanded by bakeries. Industry analysts estimate that about 60 percent of wheat consumed in Brazil comes from imported supplies. This has meant increased costs for importers and millers as the Brazilian real has lost value against the U.S. dollar. Domestic prices for flour have also been rising due to the higher cost of transportation after Brazil implemented its minimum freight rate policy for truck cargo. Infrastructure and freight rates remain among the biggest challenges for Brazil's wheat milling sector, and many millers believe the government needs to act to resolve tax and infrastructure impediments to facilitate more wheat moving from the production region in southern Brazil to the population centers in the center and north of the country.

Related Report References:

[2018 Brazil Grain and Feed Annual – BR 1807](#)

[Brazil Grain and Feed Update – July 2018 – BR 1811](#)

[Economic Impact of the Brazilian Trucker Strike \(Voluntary GAIN\) – BR 1810](#)

[2018 Brazil Poultry and Products Annual Report – BR 1813](#)

[2018 Brazil Biofuels Annual – BR 18017](#)

[Argentina Grain and Feed Update – July 2018](#)

[Argentine Government Reshuffles Cabinet and Introduces New Export Taxes](#)