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Report Highlights:

Post forecasts overall feed demand to decline by 2 percent in MY2022/23 as prices rise and additional contraction of the swine industry is anticipated. Corn for feed consumption in MY2022/23 is forecast up 2.8 percent, or 6 million metric tons (MMT). MY2022/23 corn, wheat, and rice production are all forecast down due to the push to increase oilseed production and weather conditions in major wheat growing areas. Production, consumption, and imports of both barley and sorghum are expected to remain robust in MY2022/23. Post forecasts MY2022/23 corn imports at 20 MMT and revises the import estimate for MY2021/22 to 24 MMT, which is 2 MMT below the USDA official estimate as delivery into China for contracted corn could be problematic owing to Russia's invasion of Ukraine. Feed wheat consumption is forecast down as feed mills a return to traditional levels of corn in feed rations.

Abbreviations and Acronyms:

CY	Calendar Year
DDGS	Dried Distillers Grains with or without Solubles
GACC	General Administration of Customs of the People's Republic of China
MARA	Ministry of Agriculture and Rural Affairs
MMT	Million Metric Tons
MT	Metric Tons
MY	Marketing Year
NDRC	National Development and Resource Commission
TRQ	Tariff Rate Quota

FEED DEMAND

China's MY2022/23 total feed and residual use is forecast to drop 5.8 MMT, a two percent decrease from MY2021/22, on anticipated weaker demand for hog feed that will outweigh slightly higher poultry and ruminant feed demand. According to the latest report by the China Feed Industry Association (CFIA), overall feed output will reach 300 MMT in calendar year 2022.

	Swine	Layers	Broiler	Aquaculture	Ruminants	Total
2019 Production	76.60	31.20	84.60	22.00	11.10	228.85
2020 Production	89.23	33.52	91.76	21.24	13.19	252.76
2021 Production	130.77	32.31	89.10	22.93	14.80	293.44
Year-on-Year Increase	46.6%	-3.6%	-2.9%	8.0%	12.2%	16.1%

Source: China Feed Industry Association

Hog feed production increased by nearly 50 percent to 130.8 million tons in 2021. The growth was driven by a notable increase in demand for piglet and sow feed. FAS China does not see how this growth could be repeated in 2022. China's National Bureau of Statistics (NBS) reported the sow population at the end of 2021 at 43.3 million sows, higher than industry estimates suggest. Industry sources noted that some producers are retaining and raising piglets in anticipation of higher piglet and breeding swine prices. MARA estimated China's January 2022 national breeding sow herd at 42.9 million head, down by 0.9 percent month-on-month but a 2 percent increase year-on-year. Starting from May 2021, reported returns on raising hogs turned negative and have fallen to a loss of \$60.60 (RMB385) per head at the end of February 2022. Industry sources project 2022 breeding sow stocks will drop by another 4 to 5 percent. Though the FAS China semi-annual forecast calls for a 2 percent increase in total hog inventory at the end of 2022 (see [GAIN CH2022-0026](#)).

According to NBS data, the 2021 national hog slaughter did not reach normal levels, which are estimated at around 700 million head. Livestock and feed sector sources report that slaughter weights averaged 90-124 kg in 2021 and that 110 kg was the best, or ideal, slaughter weight. Industry members believe the 2022 slaughter number will rebound to normal levels with hog weights returning closer to normal. According to other industry sources, poultry farms are confident that profits will turn positive in 2022, and they plan to rebuild capacity after the second quarter of 2022.

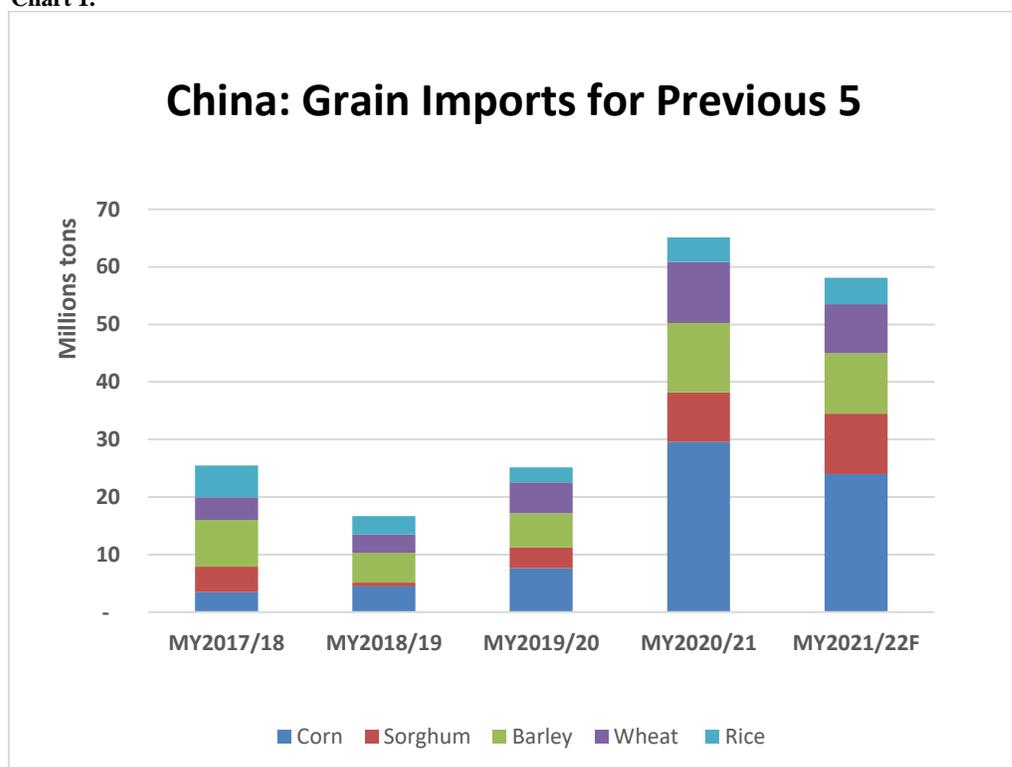
Grain	2020/21	2021/22	2022/23	Change
Corn	196.0	214.0	220	6.0
Sorghum	8.7	10.3	10	-0.3
Barley	8.7	9.1	9	-0.1
Wheat	40.0	35.0	25	-10
Old Stock Rice (milled equivalent)	23.5	21.4	20	-1.4
Total	276.9	289.8	284	-5.8

Source: FAS China analysis

On January 17, 2022, the NBS published its 2021 National Economic and Social Development Report. The report indicates that 2021 overall pork production was up by 28.8 percent compared to the previous year, while beef, lamb, and poultry production were up by 3.7 percent, 4.4 percent, and 0.8 percent, respectively. The report indicates China’s industrial feed production increased 16.1 percent year-over-year, to 293.4 MMT. Pig and poultry feed production accounted for 44.6 percent and 41.4 percent of total feed production, respectively, compared with 35.3 percent and 49.6 percent a year earlier. Pig feed production increased 46.6 percent to 130.8 MMT, reaching 133 percent more than the record previously set in 2017. At the same time, layer feed production decreased 3.6 percent, broiler feed production decreased 2.9 percent, and ruminant feed production increased by 12.2 percent.

NOTE: China’s official livestock estimates are higher than FAS China and industry estimates suggest. Please see FAS China’s 2022 [Livestock](#) and [Poultry](#) GAIN reports for additional information on China’s livestock sector.

Chart 1.



Source: TDM

Corn

Production in MY2022/23 is forecast at 265 MMT, down 2.8 percent, due to lower planted area driven by government policy to expand soy area. MARA’s 2022 policy states the country will “stabilize corn production and expand soybean output.” To achieve the goal, the ministry called for abandoned land to be cultivated. This has been a continual refrain for several years in government policy, even though nearly all arable land is already cultivated.

MARA also called for maximizing the potential of corn-soybean intercropping to ensure stable grain acreage to maximize farmland utilization. Intercropping reached 466,666 hectares (7 million mu) in 2021 and MARA calls to increase it by another 1 million hectares (15 million mu) in 2022. This has the potential to decrease corn area and yields but its overall impact remains small. MARA released [guidelines for intercropping](#) of corn and soybeans but it remains to be seen on what scale farmers will adopt this method which also presents potential challenges and losses with mechanized spraying and harvesting. Even if achieved this would equate to only 2 percent of China’s forecast planted area of 51.2 million hectares of combined corn and soybeans area in MY2022/23.

Image 1. China: Corn and Soy Intercropping in Shandong Province



Source: China Central Television

The subsidy for intercropping could be as high as \$824 per hectare (RMB 350 per mu), much higher than for soy alone. In reaction to central government directives, Heilongjiang province announced its own subsidy for soybeans will be \$472 per hectare (RMB 200 per mu) more than its corn subsidy. Other provinces have set the following goals to expand soy production.

Table 3. China: Major Provincial Goals to Expand Soybean Area		
Province	Soy Expansion Plan	Method
Heilongjiang	667,000 hectares	Cut corn and rice area
Inner-Mongolia	286,667 hectares	corn-soybean strip intercropping
Liaoning	6,667 hectares	Cut corn area
Henan	66,667 hectares	corn-soybean strip intercropping
Hebei	66,667 hectares	corn-soybean strip intercropping
Sichuan	206,667 hectares	corn-soybean strip intercropping
Chongqing	6,667 hectares	corn-soybean strip intercropping
Shaanxi	53,333 hectares	corn-soybean strip intercropping

Source: local government websites

However, the largest area for potential production growth is from improvements in seed varieties and yields. With the [January revision of the major crop variety registration rules](#), it’s expected that China

will accelerate the approval of domestically developed genetically engineered (GE) corn. The recent revisions define a clear pathway for domestically developed GE crops to be commercially cultivated. Domestically produced seed could be commercialized as soon as next year. Please refer to the [Agricultural Biotechnology Annual](#) for more information.

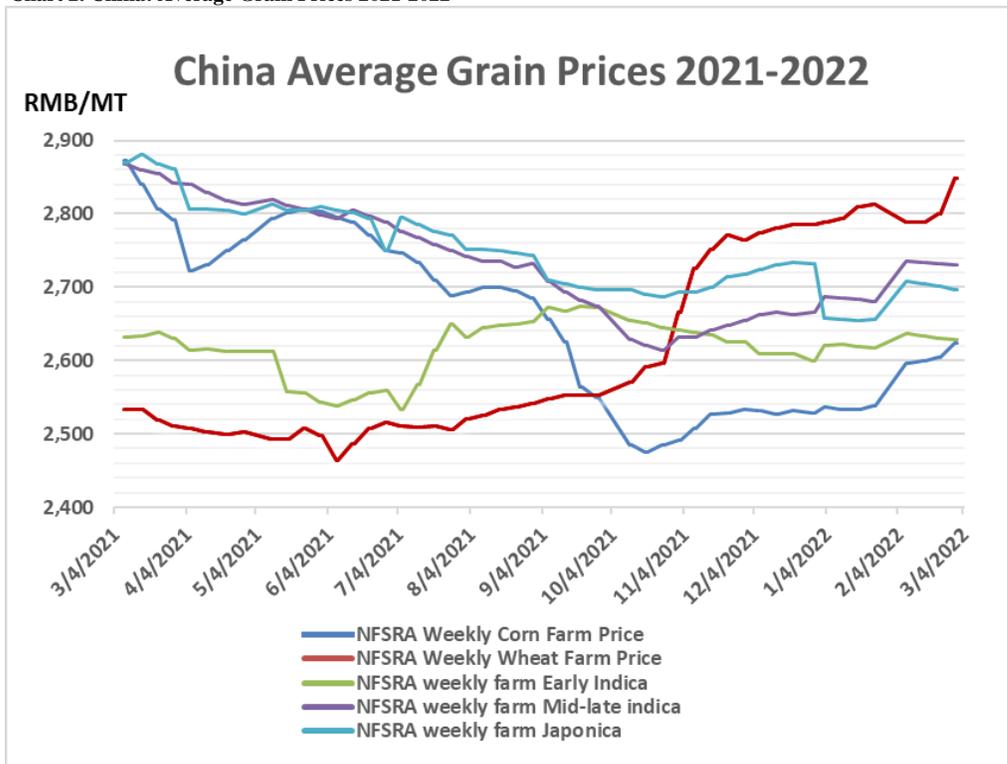
Total corn **consumption** in MY2022/23 is forecast at 300 MMT, up 6 MMT from MY2021/22 as corn usage in feed rations increases to more traditional levels despite lowered feed demand.

Feed Consumption

Corn feed consumption for MY2021/22 is increased from Post's January forecast as feed mills switch back to corn from wheat in their rations. Post's MY2021/22 forecast for corn feed use now aligns with the USDA official estimate. According to recent a survey, Chinese feed mills used 25 percent less corn in their rations on average throughout 2021. However, corn prices dropped by close to 10 percent in late 2021 while wheat prices soared to record highs at the same time. Industry contacts report mills have reduced wheat usage from the peak of 70 percent in MY2020/21 to 10 percent in early 2022. Overall feed production is forecast to remain stable, but MY2022/23 corn feed consumption is expected to increase 6 MMT, or 2.8 percent, from MY2021/22.

Post MY202/21 corn consumption estimate remains at 196 MMT, 7 MMT lower than USDA estimates due to reduced corn levels mixed in rations replaced by record amounts of wheat, rice, and imported alternative grains. Contacts report the nationwide average percentage of corn formulated in feed rations dropped dramatically in both swine and poultry feed driven by sky-high domestic corn prices.

Chart 2. China: Average Grain Prices 2021-2022



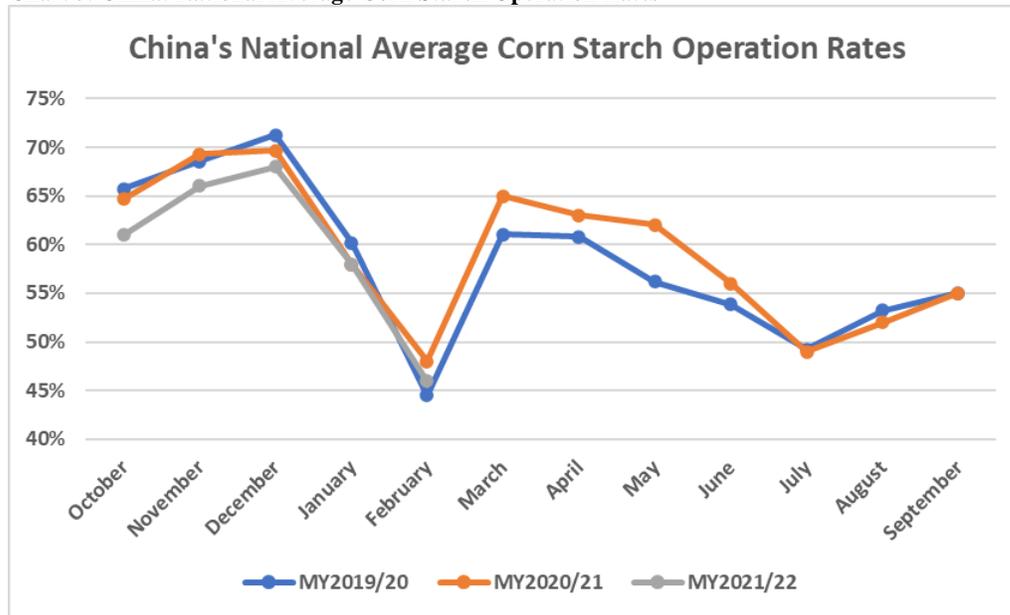
Source: National Food and Strategic Reserve Administration Website

Food, Seed, and Industrial (FSI) Use

The processing sector (to include ethanol, corn gluten meal, corn gluten feed, starch, and other processed products) growth is expected to remain stagnate in MY2022/23. China’s total corn processing capacity in the Northeast provinces is approximately 65 MMT per year, but operation rates have averaged 60 to 70 percent over the past year. Starch industry operation rates continue to decline; the operation rate in February 2022 was 5 percentage points lower than in February 2021. High corn prices coupled with food security and self-sufficiency garnering additional political priority in China, the expansion of the corn deep-processing industry has been effectively suspended since 2020.

While the 2022 central government policy called for “strictly controlling the corn-based fuel ethanol processing industry,” high corn prices over the last several years and waning support for blending mandates have led to both unprofitability and decreases in ethanol production. In addition, industry and official support for blending mandates have fallen as excessive corn stocks have been depleted. For more information on ethanol in China see the [GAIN Biofuels Annual Reports](#).

Chart 3. China: National Average Corn Starch Operation Rates



Source: Industry sources

Note: Operations are halted each year during the February Lunar New Year holiday

Post forecasts China's corn **imports** at 20 MMT in MY2022/23, as profitability issues in the swine sector are expected to lead to hog herd declines, China's stocks grow, and global prices rise. While down 4 MMT from the previous year, this would still mark the third highest year on record. China's corn supply and demand remains in a tight balance. China began to build its reserves in response to the pandemic in order to protect the country from extra volatility from unforeseen events and other external shocks to the market. In addition, lower planted area for corn due to a shift to soy acres as well as persistent, high domestic prices will further the desire for imports as market opportunities present themselves.

Post's MY2021/22 estimate for imports is increased 4 MMT from Post's earlier estimate to 24 MMT, still 2 MMT below USDA's official forecast. China will move to secure more in MY2021/22 to prepare for higher prices and short supply in MY2022/23. Prices, logistics, and the situation in Ukraine will limit what could have been a record year for China's corn imports. China has already booked 12 MMT of U.S.-origin corn for MY2021/22, of which approximately 5 MMT are yet to ship as of April 2. Initially, after Russia's invasion into Ukraine, local industry contacts reported China expedited taking delivery of already purchased U.S. corn. However, any large sales have yet to materialize as industry continues to monitor the global situation. According to local trade contacts, Chinese buyers bought ten boats of U.S. corn in March, but no other large purchases have occurred as of April 2.

Ukraine was the second largest supplier of corn to China in 2021, representing 30 percent of China's total corn imports or 8 MMT. Industry contacts report that China booked 4.5 MMT of Ukraine-origin corn prior to Russia's invasion. According to a quasi-government customs association, nearly all that corn was shipped prior to March 2022. Industry members expect that China will turn to more U.S.-origin corn as the only feasible supplier to fill the gap left by Ukraine at this point. China and the only other two major corn exporters (Brazil and Argentina) have not resolved barriers that would afford them full market access despite both having phytosanitary protocols with China.

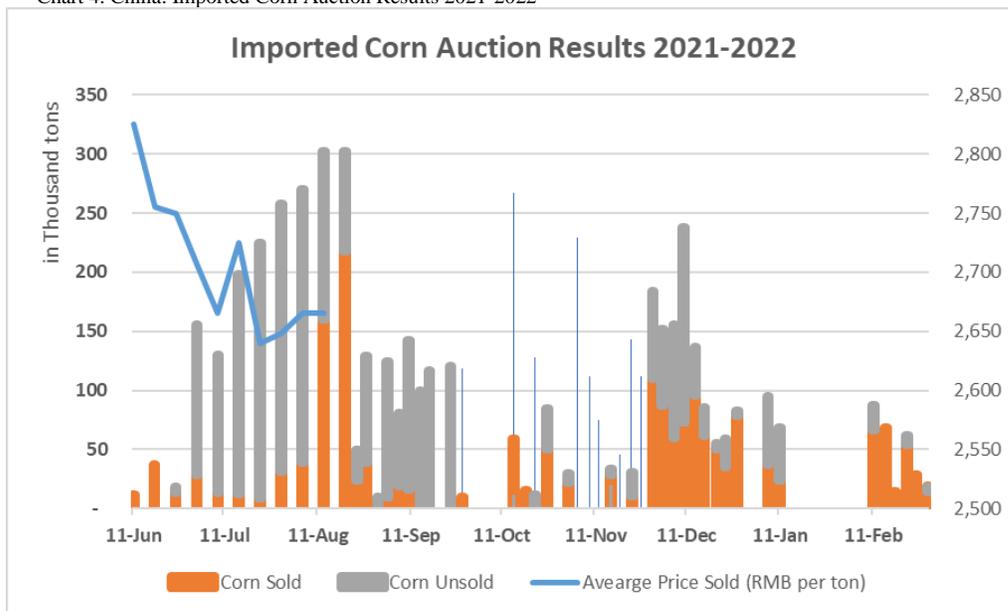
Industry contacts believe that although the war in Ukraine will raise global prices of agricultural products in the short-term, it will have limited impact on domestic corn prices. China’s domestic corn prices increased as Russia’s invasion took one of China’s two primary suppliers of corn off the market. Average prices climbed by less than \$16 (RMB 100)/MT or 3 percent. The impact to China’s grain security is believed to be manageable. Imports accounted for 10 percent of China’s total corn consumption in MY2020/21. On the other hand, skyrocketing international corn prices and logistics costs have narrowed price advantages of imported corn over homegrown. At the same time, China continues its quest to diversify import sources. On February 1, MARA signed a phytosanitary protocol with Myanmar for expanded corn exports to China. See market access chart at the end of this report.

The bulk of imported corn is believed to be stored in government reserves and not yet in the domestic market. Based on incomplete data available from June 2021 through March 2022, Sinograin only offered 7.4 MMT of imported corn for sale and of that only 3.4 MMT was sold. The corn on offer went mostly unsold at first due to the high wheat substitution rate and high auction prices. However, beginning in October 2021, the number of auctions increased, and sales rates climbed as the quality of the new year crop disappointed.

Significant volumes of imported corn and DDGS continue to enter free trade zones, being mixed with other ingredients and then entering the Chinese domestic market, despite government attempts to close this loophole. In 2021, GACC customs data shows there were 545,167 MT of corn imported into bonded areas. In contrast, GACC data shows there were 10,000 MT of corn imported into bonded areas in 2020.

The feed processing trade (import of raw materials, processing and re-exported) recorded 2,471,733 MT of corn imported in 2021 and 232,649 MT in 2020.

Chart 4. China: Imported Corn Auction Results 2021-2022



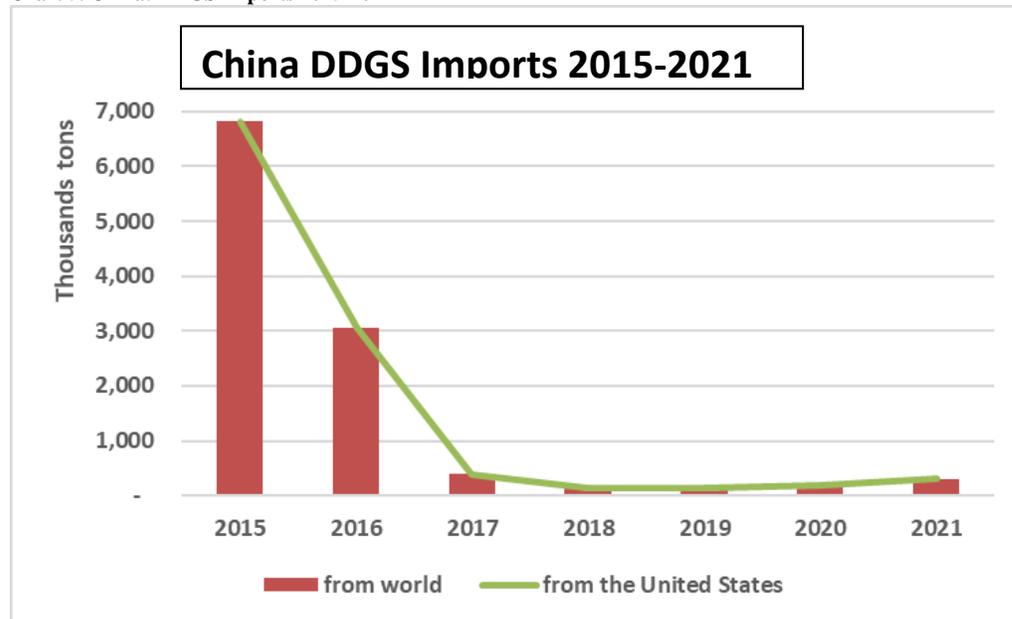
Source: NDRC

The market is showing great interest in U.S. distiller’s dried grains with or without solubles (DDGS). Even with antidumping (AD) and countervailing duty (CVD) duties, which impose 53.4-65.7 percent duties on U.S. DDGS, China imported 307,143 MT of DDGS, an increase of 69 percent in 2021. These DDGS were imported to bonded areas to avoid tariffs. With ethanol producers suffering with high corn prices, domestic DDGS are in short supply. The AD/CVD measures on U.S. DDGS were due to expire in January 2022. However, on January 11, 2022, the Ministry of Commerce (MOFCOM) [announced it will review the expiration](#) at the request of the Chinese industry and keep the AD/CVD measures in place during a one year review period. On February 21, MOFCOM issued [questionnaires](#) to DDGS stakeholders that indicated interest, including foreign governments, foreign exporters or producers, domestic producers and domestic importers. It is fully expected MOFCOM will renew the AD/CVD measures for another five years at the conclusion of the review.

Table 5. China: DDGS Imported Through Ordinary Trade Versus FTZs

HS Code	Commodity	Customs Regime	Quantity	Unit
23033000	Brewing or distilling dregs & waste	Ordinary Trade	0	tons
23033000	Brewing or distilling dregs & waste	Processing with Imported Materials	188,531	tons
23033000	Brewing or distilling dregs & waste	Customs Warehousing Trade	13,835	tons
23033000	Brewing or distilling dregs & waste	Entrepot Trade by Bonded Area	104,777	tons

Chart 5. China: DDGS Imports 2015-2021



Source: TDM

Ending **Stocks** in MY2022/23 are forecast at 200.2 MMT, down 15 MMT from MY2021/22 with higher feed use and lower imports.

Government policies and messaging continue to stress the importance of food security and reserves both in relation to Covid and self-sufficiency. The government concept of grain security is not limited to food grains as it also includes feed grains. Maintaining large reserves and continuing to replenish and build larger stocks will be a key piece of government messaging and policy for years to come as world events further the Chinese government's desire to be prepared for all eventualities.

Corn Production, Supply, and Distribution

Corn Market Year Begins China	2020/2021		2021/2022		2022/2023	
	Oct 2020		Oct 2021		Oct 2022	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	41264	41264	43324	43324	0	42300
Beginning Stocks (1000 MT)	200526	200526	205704	212704	0	215236
Production (1000 MT)	260670	260670	272552	272552	0	265000
MY Imports (1000 MT)	29512	29512	26000	24000	0	20000
TY Imports (1000 MT)	29512	29512	26000	24000	0	20000
TY Imp. from U.S. (1000 MT)	20863	20863	0	0	0	0
Total Supply (1000 MT)	490708	490708	504256	509256	0	500236
MY Exports (1000 MT)	4	4	20	20	0	20
TY Exports (1000 MT)	4	4	20	20	0	20
Feed and Residual (1000 MT)	203000	196000	214000	214000	0	220000
FSI Consumption (1000 MT)	82000	82000	80000	80000	0	80000
Total Consumption (1000 MT)	285000	278000	294000	294000	0	300000
Ending Stocks (1000 MT)	205704	212704	210236	215236	0	200216
Total Distribution (1000 MT)	490708	490708	504256	509256	0	500236
Yield (MT/HA)	6.3171	6.3171	6.291	6.291	0	6.2648
(1000 HA) ,(1000 MT) ,(MT/HA)						
MY = Marketing Year, begins with the month listed at the top of each column						
TY = Trade Year, which for Corn begins in October for all countries. TY 2022/2023 = October 2022 - September 2023						

Sorghum and Barley

Post forecasts both sorghum and barley **production** will remain stable in MY2022/23. According to an industry survey, sorghum planting intentions in northeast China and the North China Plain are steady due to good returns in 2021.

Sorghum and barley **consumption** in MY2022/23 are both forecast to remain robust, and **imports** of both are forecast to continue to be strong.

China imported 9.4 MMT of sorghum from the world in calendar year 2021¹, nearly double its imports the year before. As the largest supplier, the United States exported roughly 6.6 MMT of sorghum to China in 2021. This amounted to nearly 70 percent of China's total imports, down from 88 percent market share the year before- losing ground to Argentina and Australia. However, the United States remains the world's top exporter of sorghum and will continue to be China's top supplier. Australia is forecast to export 1.5 MMT of sorghum from March 2021 to February 2022, with all but 100,000 MT bound for China. Despite the ongoing trade dispute between the two countries that has halted the flow of Australian barley to China, bilateral sorghum trade remains strong.

¹ Note: Calendar year used as trade data is available for 2021, but not yet the full marketing year

In calendar year 2021, China imported 12.5 MMT of barley from the world, up 55 percent from 2020 and the largest year on record. France, Canada, and Ukraine were China's top three barley suppliers. While Ukraine accounted for 26 percent of China's total barley imports with shipments of 3.2 MMT, China will likely import less or turn to its other traditional partners to make up for the loss of Ukraine.

China continues to diversify its grain supplies and barley is no exception. In 2021 China imported barley from the United States for the first time. While the total was only 235 MT, Post importer contacts report that China would buy as much barley as the United States is able to supply.

Both Argentine sorghum and barley benefited in massive growth at the expense of other traditional trading partners, namely Australia. Argentina's sorghum exports grew 395 percent in 2021 from the previous year with nearly all exported to China. At the same time Argentina was the fourth largest barley supplier to China in 2021 growing its market share from just 5 to 14 percent in one year. According to industry sources twenty boats of Argentine barley have been shipped to China since December 2021 with an additional eight vessels lined up waiting to ship with new crop sorghum expected to ship from July to October 2022. Total supply of these two grains from Argentina is forecast to reach as much as 6 MMT. China continues to build closer ties with Argentina including through grain trade through the One Belt One Road initiative as was committed and reported during presidential-level talks on the margins of the 2022 Winter Olympics.

On February 4, hours before the opening ceremony of the Winter Olympics, China lifted restrictions on Russian barley imports to allow imports from all regions of Russia. While this could be an avenue for China to make up the loss of Ukrainian barley, Russian exports last year totaled only 5 MMT and of which only 74,000 MT went to China. In early February, 2,940 MT of Russian barley arrived Jiangsu's Dafeng port by sea for the first time. Several weeks later, a shipment of fifty cars or approximately 3,000 MT were shipped via rail through Inner-Mongolia's Manzhouli to Shandong. Russian barley prices are quoted \$15.9 (RMB 100) lower than other imported barley at \$404.8 (RMB 2,550)/MT. However, logistics and shipping costs will remain hurdles for large increases of Russian barley exports to China.

Grains	Landed Prices
Local Corn (spot)	2,850
Local Brown Rice	2,760
Imported U.S. Corn	3,000
Imported U.S. Sorghum	2,800
Imported Argentine Sorghum	2,680
Imported Argentine Barley	2,835
Indian Broken Rice (Out-of-quota)	2,800
Imported Australian Wheat	3,100
Exchange Rate as of March 30, 2022, \$1=6.36 RMB	

Source: Industry Source

Sorghum Production, Supply, and Distribution

Sorghum Market Year Begins China	2020/2021		2021/2022		2022/2023	
	Oct 2020		Oct 2021		Oct 2022	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	635	635	630	630	0	625
Beginning Stocks (1000 MT)	34	34	269	269	0	239
Production (1000 MT)	2970	2970	3000	3000	0	2950
MY Imports (1000 MT)	8669	8669	10500	10300	0	10000
TY Imports (1000 MT)	8669	8669	10500	10300	0	10000
TY Imp. from U.S. (1000 MT)	6511	6511	0	0	0	0
Total Supply (1000 MT)	11673	11673	13769	13569	0	13189
MY Exports (1000 MT)	4	4	30	30	0	0
TY Exports (1000 MT)	4	4	30	30	0	0
Feed and Residual (1000 MT)	8700	8700	10500	10300	0	10000
FSI Consumption (1000 MT)	2700	2700	3000	3000	0	3100
Total Consumption (1000 MT)	11400	11400	13500	13300	0	13100
Ending Stocks (1000 MT)	269	269	239	239	0	89
Total Distribution (1000 MT)	11673	11673	13769	13569	0	13189
Yield (MT/HA)	4.6772	4.6772	4.7619	4.7619	0	4.72

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

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

TY = Trade Year, which for Sorghum begins in October for all countries. TY 2022/2023 = October 2022 - September 2023

Barley Production, Supply, and Distribution

Barley Market Year Begins China	2020/2021		2021/2022		2022/2023	
	Oct 2020		Oct 2021		Oct 2022	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	509	509	510	510	0	510
Beginning Stocks (1000 MT)	289	289	1374	1374	0	474
Production (1000 MT)	2036	2036	2000	2000	0	2000
MY Imports (1000 MT)	12049	12049	10500	10500	0	11000
TY Imports (1000 MT)	12049	12049	10500	10500	0	11000
TY Imp. from U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	14374	14374	13874	13874	0	13474
MY Exports (1000 MT)	0	0	0	0	0	0
TY Exports (1000 MT)	0	0	0	0	0	0
Feed and Residual (1000 MT)	8700	8700	9100	9100	0	9000
FSI Consumption (1000 MT)	4300	4300	4300	4300	0	4300
Total Consumption (1000 MT)	13000	13000	13400	13400	0	13300
Ending Stocks (1000 MT)	1374	1374	474	474	0	174
Total Distribution (1000 MT)	14374	14374	13874	13874	0	13474
Yield (MT/HA)	4	4	3.9216	3.9216	0	3.9216

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

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

TY = Trade Year, which for Barley begins in October for all countries. TY 2022/2023 = October 2022 - September 2023

Wheat

MY2022/23 wheat **production** is forecast at 133 MMT, 2.9 percent lower than MY2021/22 due to major floods, despite stable planted area. Late planting because of floods is expected to reduce wheat yield and crop quality for MY2022/23. The main issues for this year's crop will be low protein, broken kernels, and higher toxin rates. The bulk of this wheat will be bound for feed and ethanol use. Some

third-class wheat will be mixed with first class to make second class wheat for the MSP program. The MSP program normally procures more wheat in a bad crop year than in a good year.

In early March, MARA's Minister said the condition of the winter wheat crop in some major producing regions could be the "worst in history" while on a visit to wheat growing regions in Henan province. At the same time, he reassured that the country could still see a bumper harvest due to policy efforts and that the government would make exceptional and all-out efforts as the sector faces "unprecedented challenges and difficulties" caused by floods during planting. Although the Minister's comment referred to the specific area he was visiting, many have applied the quote to the entire wheat crop. While the area is a key wheat growing area, Post forecasts overall production will only decrease slightly, but crop quality will be lower.

Based on 2021 wheat quality reports for top wheat producing provinces, Henan and Jiangsu, the 2021 wheat protein content, test weight, and gluten content are all at higher-than-average levels in comparison with previous years. The planted area of high-protein wheat continued to expand. Some riverside areas have wheat toxin issues every year, but that wheat is procured by specific buyers to be used for industrial ethanol production.

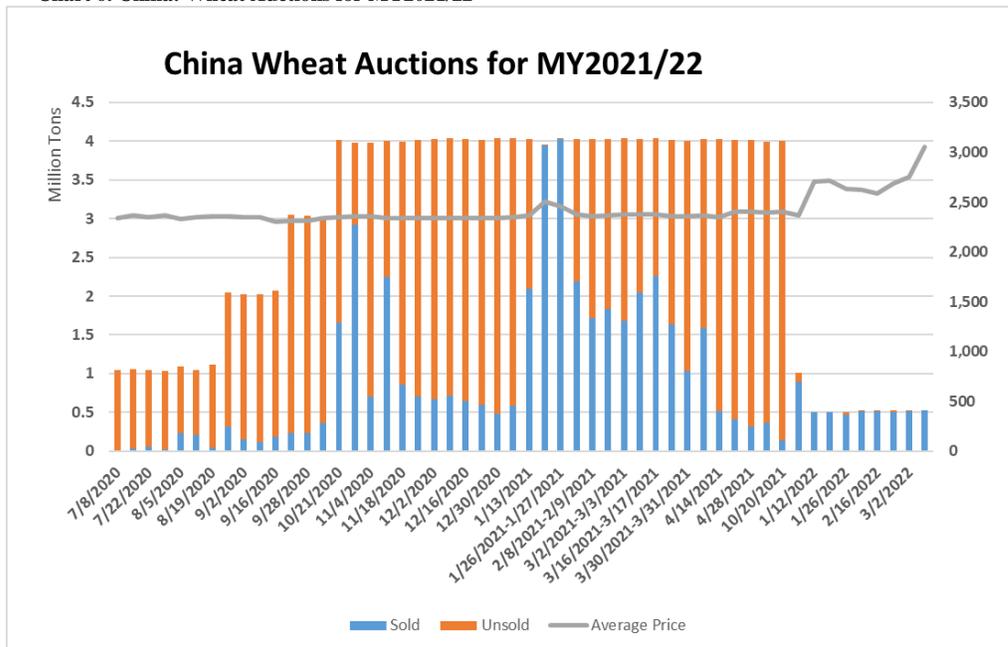
MY2022/23 total wheat **consumption** is forecast lower at 138 MMT, down 9.5 MMT from MY2021/22, on lower feed use. Post forecasts MY2022/23 feed use will decrease 29 percent to 25 MMT. Wheat substitution of corn in feed will continue in 2022, but price is the determining factor in the ratio of wheat in feed and rising wheat prices will push wheat out of rations.

Demand from flour mills for high quality wheat and pessimistic projections for MY2022/23 wheat output and quality pushed up wheat prices in the fourth quarter 2021. Prices further rose by 6 percent as a result of Russia's invasion of Ukraine and anticipations of ongoing tight supplies. Sinograin wheat auctions on February 28 in Jiangsu (5,500 MT 2018 wheat offered) and Shandong (85,8621 MT 2017-2021 wheat offered) saw 100 percent of the wheat offered sold with record prices of \$501 (RMB 3,155)/MT and \$520 (RMB 3,275)/MT. Including other fees, the prices were approximately \$524 (RMB 3,300)/MT. Domestic spot wheat prices also jumped recently by \$16 (RMB 100)/MT in one week.

Post forecasts MY2022/23 wheat consumption for food use will remain stable, as the diet of Chinese young people continues to shift to consumption of more westernized foods such as bread and bakery products. Industrial consumption is also expected to increase due to reduced wheat quality in MY2022/23.

The National Grain Trade Center resumed minimum support (MSP) wheat auctions in early January and limited participation only to flour mills. Previously nearly anyone could buy from the auctions including feed mills. Only 500,000 MT were on offer each week of 2014-2017 crop. This is down from up to 3 MMT on offer weekly just three months ago. Although the amount of wheat offered is greatly reduced, industry contacts still believe China's wheat reserves are sufficient and the auctions were only held to stabilize market prices.

Chart 6. China: Wheat Auctions for MY2021/22



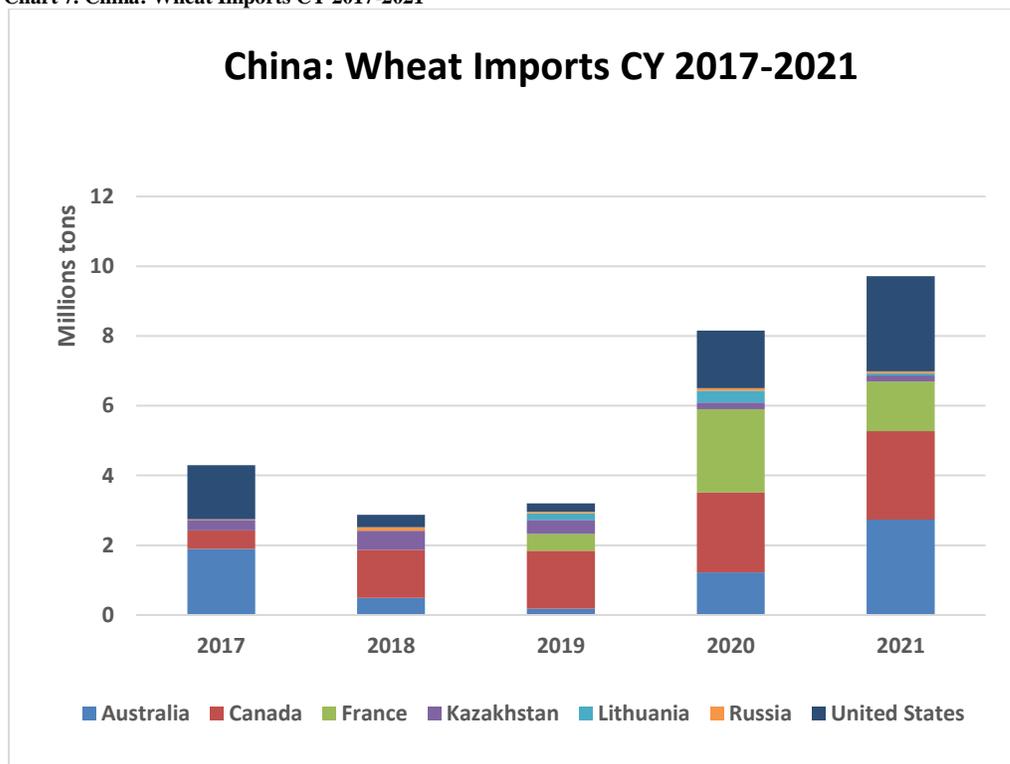
Source: National Grain Trade Center

MY2022/23 wheat **imports** are forecast at 9 MMT. MY2021/22 wheat imports are estimated at 8.5 MMT, still 1 MMT lower than USDA’s March estimate of MY2021/22, based on current bookings, ship lineups, and a lull in new purchases. Reportedly, feed mills switched to feeding some imported wheat at the end of 2021 when wheat auctions were halted but skyrocketing international wheat prices curtailed its use in feed.

On February 4, China lifted restrictions Russian wheat to allow for imports from all regions of Russia. China imported less than 50,000 MT of Russian wheat in 2021 but Russia’s total annual exports are 35 MMT representing huge potential should other nations no longer choose to purchase Russian wheat. While Russian wheat has a price advantage, the quality remains a major concern for Chinese importers, particularly mills. As nearly all of China’s domestic wheat production has mid-level protein content, China predominantly imports high-end wheat varieties with specific protein and gluten levels to supplement local varieties based on the demands of millers, bakeries, and food processors. Additionally, Russian wheat imports enter China overland making a large increase in China’s imports unlikely. Increased investment in infrastructure on the Russian border may facilitate more wheat imports in the future but is unlikely to be realized for several years.

Ukraine does not export wheat to China as it does have a phytosanitary protocol to allow for imports.

Chart 7. China: Wheat Imports CY 2017-2021



Source: TDM

MY2022/23 **ending stocks** are forecast to recover by 3.1 MMT to 144.3 MMT on slow demand. Industry estimates China's temporary reserve was 90 MMT at the end of 2019. In calendar years 2020 and 2021, the industry has seen close to 50 MMT temporary reserve wheat sold via auctions. The amount has been partially refilled by procurement via the MSP program. It is estimated that there are still 13 MMT of 2014-2016 wheat, 10 MMT of 2017 wheat, 16 MMT of 2019 wheat, and 6 MMT of 2020 wheat in the temporary reserve.

Year	White Wheat	Red Wheat	Mixed
2015	2360	2360	2360
2016	2360	2360	2360
2017	2360	2360	2360
2018	2300	2300	2300
	-60	-60	-60
2019	2240	2240	2240
	-60	-60	-60
2020	2240	2240	2240
2021	2260	2260	2260
	+20	+20	+20
2022	2300	2300	2300
	+40	+40	+40

Source: National Grain Trade Center

On October 12, 2021, NDRC announced it will continue the MSP program in the major wheat producing regions in 2022. This includes the provinces of Hebei, Shandong, Henan, Shaanxi, Anhui, and Jiangsu. The guarantee program requires the government to buy wheat from farmers at a minimum price when the market price drops below that level. For 2022 the State Council approved an increase in the MSP of \$6.30 (40RMB) higher than 2021 for 3rd class MSP wheat. Since the policy launched in 2006, China has revised the wheat MSP upwards seven times from 2008-2014 and revised the wheat MSP down twice, each time downward by ~\$9.50 (60 RMB)/MT for 2018 and 2019 MSP wheat, respectively. Industry believes the 2022 increase aims to increase farmers' income, stabilize wheat production and prices. MSP prices are expected to be adjusted even higher by \$6.3-9.5 (RMB 40-60)/MT for 2023.

Wheat Production, Supply, and Distribution

Market Year Begins	2020/2021		2021/2022		2022/2023	
	Jul 2020		Jul 2021		Jul 2022	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
China						
Area Harvested (1000 HA)	23380	23380	23568	23568	0	23400
Beginning Stocks (1000 MT)	150015	150015	144120	144120	0	141166
Production (1000 MT)	134250	134250	136946	136946	0	133000
MY Imports (1000 MT)	10618	10618	9500	8500	0	9000
TY Imports (1000 MT)	10618	10618	9500	8500	0	9000
TY Imp. from U.S. (1000 MT)	3367	3367	0	0	0	0
Total Supply (1000 MT)	294883	294883	290566	289566	0	283166
MY Exports (1000 MT)	763	763	900	900	0	900
TY Exports (1000 MT)	763	763	900	900	0	900
Feed and Residual (1000 MT)	40000	40000	35000	35000	0	25000
FSI Consumption (1000 MT)	110000	110000	112500	112500	0	113000
Total Consumption (1000 MT)	150000	150000	147500	147500	0	138000
Ending Stocks (1000 MT)	144120	144120	142166	141166	0	144266
Total Distribution (1000 MT)	294883	294883	290566	289566	0	283166
Yield (MT/HA)	5.7421	5.7421	5.8107	5.8107	0	5.6838

(1000 HA) ,(1000 MT) ,(MT/HA)
 MY = Marketing Year, begins with the month listed at the top of each column
 TY = Trade Year, which for Wheat begins in July for all countries. TY 2022/2023 = July 2022 - June 2023

RICE

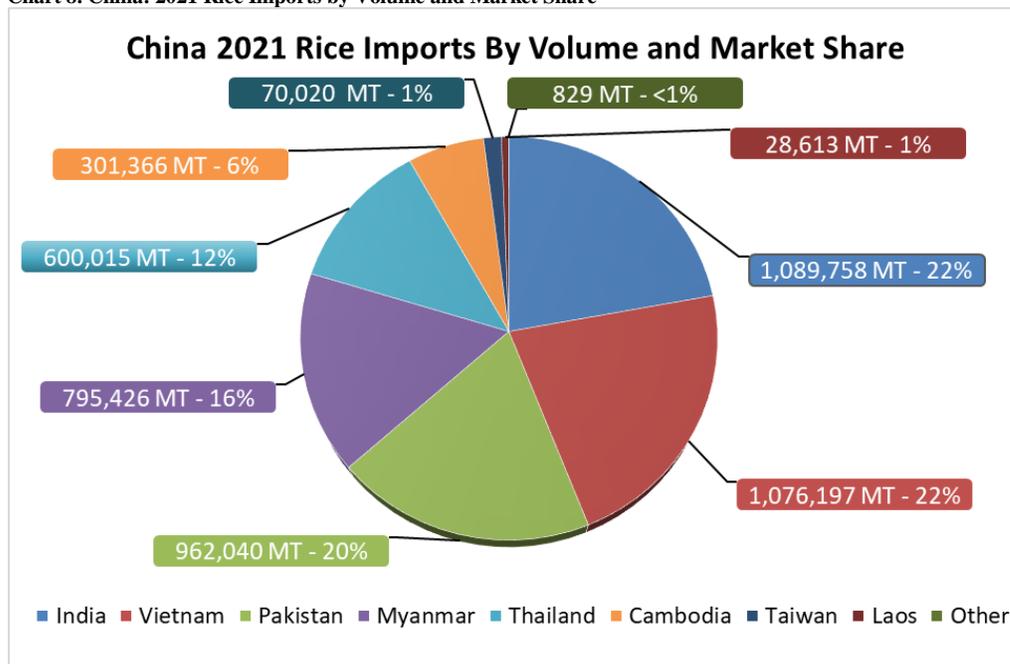
MY2022/23 rough rice **production** is forecast at 211.4 MMT, down 1.4 MMT from USDA's March estimates for MY2021/22. Rice planted area is expected to drop in 2022 as prices continue to decline and government policies encourage planting more oilseed crops.

MY2022/23 rice **consumption** is forecast at 150 MMT, down 5 MMT from MY2021/22 based on weak demand for both feed and food use. China's population is projected to decline and rice consumption is expected to continue to fall in the coming years. In addition, the diet of many young Chinese young people is changing to include more Western foods and less rice.

Rice substitution for corn in feed rations will continue throughout 2022 but at a lower rate than before. In MY2020/21, 15.1 MMT of rice was sold specifically to feed mills and 4.5 MMT wheat and rice mixture through auctions. On March 10, the first round of old stock paddy rice auction for feed use was held. One hundred percent of the 1 MMT old stock rice (640,000 tons in the North and 360,000 tons in the South), which had exceeded the age limit set for reserves, was sold with an average price of \$244

(RMB 1,538)/MT with twelve State-Owned Enterprises (SOEs) participating in the auction. It's rumored that total brown rice to be offered could hit 28 MMT, higher than the earlier rumor of 20 MMT. Brown rice is sold directly to feed mills to be fed. At a brown rice pre-sale in January in Guangdong, brown rice was quoted at approximately \$436.5-439.7 (RMB 2,750-2,770)/MT. In that auction, 5 MMT was rumored to be sold. The MSP paddy rice auctions resumed on March 8 with 1.8 MMT offered each week. At these prices rice no longer has an advantage over corn for feed.

Chart 8. China: 2021 Rice Imports by Volume and Market Share



Source: TDM

MY2022/23 rice **imports** are forecast at 5.0 MMT, up 400,000 MT from MY2021/22. International rice prices fluctuated at low levels despite price increases for other grains. Domestic rice prices remained stable and are expected to continue to be more expensive than international rice prices, especially after the government increased the rice MSP procurement prices in 2022 (the third year in a row). The trend to import broken rice from India and Pakistan, which allows Chinese importers to avoid the TRQ, will continue in 2022. Industry sources and news accounts suggest that the imported rice was destined for feed use and that the purchases were driven by price. Post anticipates future rice purchases will be based on rice prices found on the international market. In late January, the first batch 1,000 MT of Thai rice was delivered to Chongqing via the Laos-China railway, signaling a new chapter of Thai exports to China.

However, in line with historical trends, China is once again expected not to fill its short-to-medium grade rice TRQ in 2022 or even in 2023.

Table 7. China: Rice Import Classification			
Year 2021	Long-grain		Med/short grain
10063020, Long grain milled rice	2,270,529	10063080, med/short grain milled rice	125,231
1006.4020 Long grain broken rice	2,200,103	1006. 4080 med/short grain broken rice	316,074
1006.1081 Long grain paddy	11,324	1006.1089 med/short grain paddy	335
1006.2020 Long grain brown rice	667	1006. 2080 med/short grain brown rice	0
TOTAL	4,482,623		441,640
Source: China Customs data; unit in tons			

Post forecasts rice **exports** at 2.5 MMT in MY2022/23. Post increased estimated MY2021/22 exports by 500,000 tons to 2.75 MMT. The top five markets for China's exports were Egypt, South Korea, Sierra Leone, Cote d'Ivoire, and Papua New Guinea. In addition, in January 2022, the Sri Lankan Minister of Finance announced that the Chinese Government promised to donate one million metric tons of rice to Sri Lanka in the near future to mark the 71st anniversary of the Sino-Sri Lankan Rice-Rubber Pact signed between China and Sri Lanka. However, this has yet to be reported in the Chinese press or official government statements. As of the date publication only 2,000 MT had been donated.

Table 8. China: Top Ten Rice Export Markets

	Partner Country	Annual Imports (MT)		Market Share (%)		Change 2020-2021	Unit Value
		2020	2021	2020	2021	Percent	USD/Ton
	World	2,304,274	2,447,886	100%	100%	+6.23	\$423.10
1	Egypt	263,500	250,000	11%	10%	-5.12	\$320.50
2	South Korea	205,578	226,094	9%	9%	+9.98	\$826.20
3	Sierra Leone	205,000	189,500	9%	8%	-7.56	\$288.70
4	Cote d'Ivoire	99,000	168,040	4%	7%	+69.74	\$296.80
5	Papua New Guinea	126,152	148,293	5%	6%	+17.55	\$369.70
6	Guinea	83,000	146,985	4%	6%	+77.09	\$300.20
7	Cameroon	187,550	144,000	8%	6%	-23.22	\$282.10
8	Niger	132,000	140,879	6%	6%	+6.73	\$274.60
9	Turkey	31,500	120,500	1%	5%	+282.54	\$318.20
10	Puerto Rico	63,000	84,000	3%	3%	+33.33	\$330.70
	All Others	907,997	829,592	40%	34%		

Source: TDM

MY2022/23 **ending stocks** are forecast at 113 MMT, up 500,000 tons from MY2021/22 due to increased imports

On February 18, NDRC announced the [2022 rice MSP price](#) for rice graded above '3' will be 2,480 RMB (\$392 USD) per ton for early Indica rice, up by 40 RMB (\$6.3 USD) per ton from 2021; 2,580 RMB (\$403 USD) per ton for mid-to-late Indica rice, up 20 RMB (\$3.1 USD) per ton from 2021; and 2,620 RMB (\$413 USD) per ton for Japonica rice, up 20 RMB (\$3.1 USD) per ton from 2021. Like the 2022 wheat MSP, which was announced last November, NDRC set a ceiling for the total MSP procurement amount for rice. [The 2022 ceiling](#) is unchanged from the 50 MMT established for 2020, including 20 MMT of Indica and 30 MMT of Japonica rice. The first 45 MMT can be purchased from any of the eligible provinces, but the final 5 MMT, including 2 MMT Indica and 3 MMT Japonica, will be allocated among provinces based on unspecified needs criteria. The ceiling is much higher than the actual MSP volume in past years.

Year	Early Indica	Mid-to-Late Indica	Japonica
2015	2,700	2,760	3,100
2016	2,660	2,760	3,100
	-40		
2017	2,600	2,720	3,000
	-60	-40	-100
2018	2,400	2,520	2,600
	-200	-200	-400
2019	2,400	2,520	2,600
2020	2,420	2,540	2,600
	+20	+20	
2021	2,440	2,560	2,600
	+20	+20	
2022	2,480	2,580	2,620
	+40	+20	+20

Source: National Grain Trade Center

Industry sources report that China had over 100 MMT of rice in temporary reserves at the end of 2019. Of this, 20 MMT of old stock rice was sold for feed and industrial use in 2020 and 2021, but sources indicate this amount was refilled by procurement via the MSP program. Post estimates there is over 100 MMT of rice in the temporary reserve.

Rice Production, Supply, and Distribution

Rice, Milled Market Year Begins China	2020/2021		2021/2022		2022/2023	
	Jul 2020		Jul 2021		Jul 2022	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	30076	30076	29921	29921	0	29600
Beginning Stocks (1000 MT)	116500	116500	116500	116500	0	112500
Milled Production (1000 MT)	148300	148300	148990	148990	0	148000
Rough Production (1000 MT)	211857	211857	212843	212843	0	211429
Milling Rate (.9999) (1000 MT)	7000	7000	7000	7000	0	7000
MY Imports (1000 MT)	4215	4215	4600	4600	0	5000
TY Imports (1000 MT)	4921	4921	4700	4700	0	5000
TY Imp. from U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	269015	269015	270090	270090	0	265500
MY Exports (1000 MT)	2222	2222	2250	2750	0	2500
TY Exports (1000 MT)	2407	2407	2250	2750	0	2500
Consumption and Residual (1000 MT)	150293	150293	154840	154840	0	150000
Ending Stocks (1000 MT)	116500	116500	113000	112500	0	113000
Total Distribution (1000 MT)	269015	269015	270090	270090	0	265500
Yield (Rough) (MT/HA)	7.0441	7.0441	7.1135	7.1135	0	7.1429

(1000 HA) ,(1000 MT) ,(MT/HA) MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Rice, Milled begins in January for all countries. TY 2022/2023 = January 2023 - December 2023

POLICY

China's No. 1 Country Document

On February 22, 2022, China's Central Government released its annual policy guidelines on agriculture and rural development, known as the "Number 1 Document", for the current year. The Document called on stabilizing grain area and production, improving soy and oilseed production capacity, guaranteeing farmer income from planting grains and coordinating control of important agricultural products by perfecting whole industry chain monitor and alert system. The country will limit corn-based fuel ethanol production and fight against corruption and food waste. More information on Number 1 Document can be found in [GAIN CH2022-0029](#).

Chinese Government Sets Goal of Maintaining 2022 Planted Area

At the Central Economic Work Conference President Xi Jinping emphasized that food is the top issue for the government and grain is the lifeline of the people. He again used the common refrain "The Chinese people's rice bowl should be firmly placed in their own hands...prepare in advance unexpected things is the way of governing a country." And that "China shall use the two "markets," but there should be a security line that shall light up if we cross the line." He also stated that the government shall clarify the strategic bottom-line for domestic self-sufficiency production of important resources, and enhance establishing national strategic material reserve system, to perform adjustment function as bottom-line in key time.

Tariff Rate Quotas

On September 30, 2021, the National Development and Reform Commission (NDRC) published the [2022 TRQ Application and Allocation Measures for Grain and Cotton](#). For grain, the total quota and percentage allocated to State-Owned Enterprises (SOEs) remains unchanged from 2021. The 2022 measures continued to emphasize that the TRQs must be fully allocated, and both the state-owned and non-state owned TRQs must be fully utilized, based on market conditions. Starting in 2020, the policy included punitive measures for companies that receive import TRQ but do not fill the entire volume.

Commodity	TRQ Volume (MT)	Private Allocation	State-Owned Enterprise Allocation	In-Quota Duty	Out-of-Quota Duty
Corn	7,200,000	40%	60%	1%	65%
Wheat	9,636,000	10%	90%	1%	65%
Long Grain Rice	2,660,000	50%	50%	1%	65%
Medium-Short Grain Rice	2,660,000	50%	50%	1%	65%

Government Encourages Imports of Alternative Grains

Government backed media outlets proclaimed that China should increase imports of alternative grains such as barley, sorghum, cassava powder, and DDGS to alleviate pressure on the corn and wheat TRQs. China shall build a stable and reliable international food supply chain by buying grains "firsthand" directly rather than only buying from international grain traders (such as the "ABCDs). NDRC was reportedly ordered to push state-owned buyers to scour markets for materials including oil and gas, iron ore, barley, and corn to fill any potential gaps brought on by Russia's invasion to Ukraine. With rising

international grain prices, South China industry reportedly asked for quotes for cassava imports in early March as an alternative.

APPENDIX

Countries with Bilateral Phytosanitary Protocols

GACC published the list, below, of countries/regions from which imports of grain and plant-sourced feed varieties are allowed into China.

Table 11. China: Countries with Bilateral Phytosanitary Protocols

Wheat	Australia, Canada, France, Hungary, Kazakhstan, Mongolia, Russia, United Kingdom, United States, Serbia, Lithuania
Corn	Thailand, United States, Peru, Laos, Argentina, Russia, Ukraine, Bulgaria, Brazil, Cambodia, South Africa, Hungary, Kazakhstan, Uruguay, Mexico, Serbia, <i>Myanmar*</i>
Barley	Argentina, Australia, Canada, Denmark, France, Finland, Mongolia, Kazakhstan, Russia, United Kingdom, Ukraine, Uruguay, United States
Sorghum	Argentina, United States, Australia, Myanmar, Nigeria, Mexico
Paddy Rice	Russia
Milled Rice	Cambodia, India (both Basmati and Non-Basmati), Japan, Laos, Myanmar, Pakistan, Thailand, Uruguay, Vietnam, Taiwan, United States

Note: Countries with Bilateral Phytosanitary Protocols are permitted to export grains

*Indicates new access in 2022

Source: China Customs

Attachments:

No Attachments