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Feed Outlook: June 2023

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Corn Ending Stocks Are Up on Lower 2022/23 Exports

Corn ending stocks for the 2022/23 and 2023/24 marketing years are raised this month, due to lower estimated corn exports for 2022/23. The reduction in corn exports was partially offset by a reduction in corn imports during the current marketing year. The projection of production and use for all feed grains during the 2023/24 marketing year remains unchanged. Feed grain supply moves up slightly for 2023/24 to 444 million tons on higher beginning stocks.

World 2023/24 coarse grain production is projected higher this month, on an increase of 2.5 million tons in Ukrainian corn production. EU corn imports are projected higher, as the European Union is expected to benefit from higher Ukrainian supplies. U.S. corn exports for 2022/23 are projected lower, with the slow pace of shipments in October-April supporting a reduced forecast. Brazilian corn production is projected higher for 2022/23, while Argentine corn production is reduced due to drought conditions that continue to impact the region.

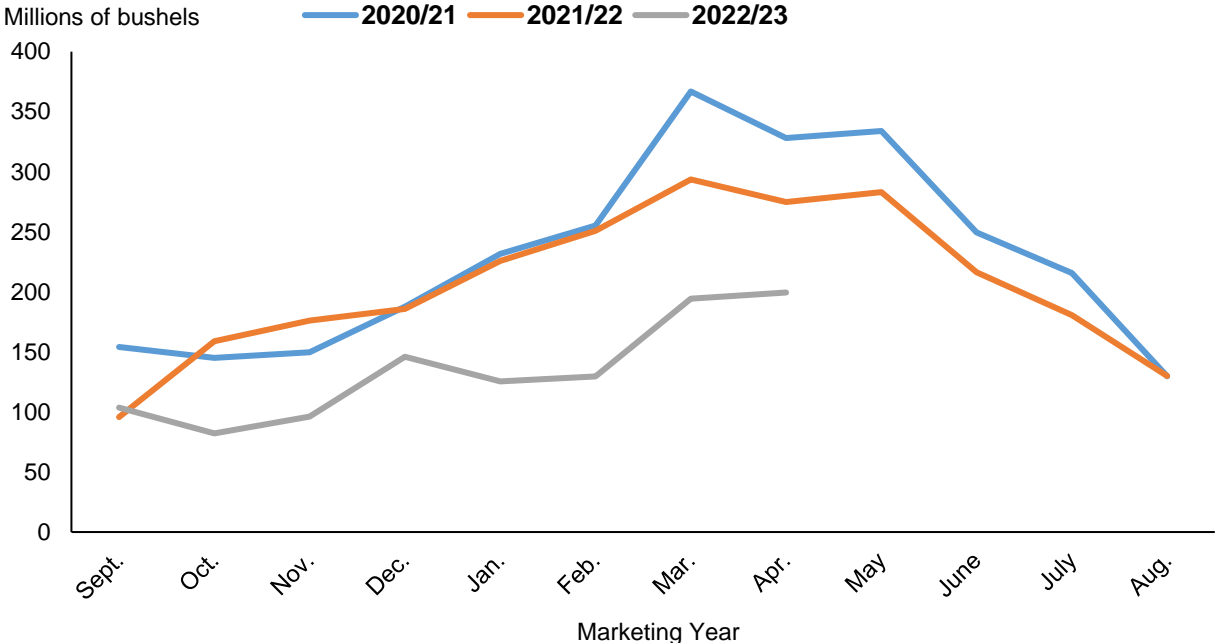
Domestic Outlook

Corn Exports Are Lowered for 2022/23

U.S. corn exports for 2022/23 are lowered to 1.725 billion bushels, down 50 million bushels from the May *World Agricultural Supply and Demand Estimates (WASDE)* report. Corn export sales, as reported in the USDA’s Foreign Agricultural Service’s *Grains Inspected for Export* report, reflect the diminished prospects for U.S. corn exports over the remainder of the marketing year. Total commitments of corn exports (accumulated exports shipped, combined with remaining outstanding sales) show 1.509 billion bushels as of June 1, down from 2.343 billion bushels in 2021/22.

Through April, U.S. corn exports totaled 1.077 billion bushels, according to data from the U.S. Department of Commerce, Bureau of the of the Census. Corn exports through April are 35 percent down from last year’s 1.662 billion bushels (see figure 1). From June to the end of the marketing year, U.S. corn intended for export enters a period of direct competition with South American crops, in particular Brazil’s large second (safrinha) crop. At present, U.S. corn prices in export markets sit well above South American competitors, see the International Outlook section of this report for more details.

Figure 1
U.S. corn for grain exports, by marketing year



Source: U.S. Department of Commerce, Bureau of the Census.

Corn Ending Stocks Are Raised for 2022/23 and 2023/24

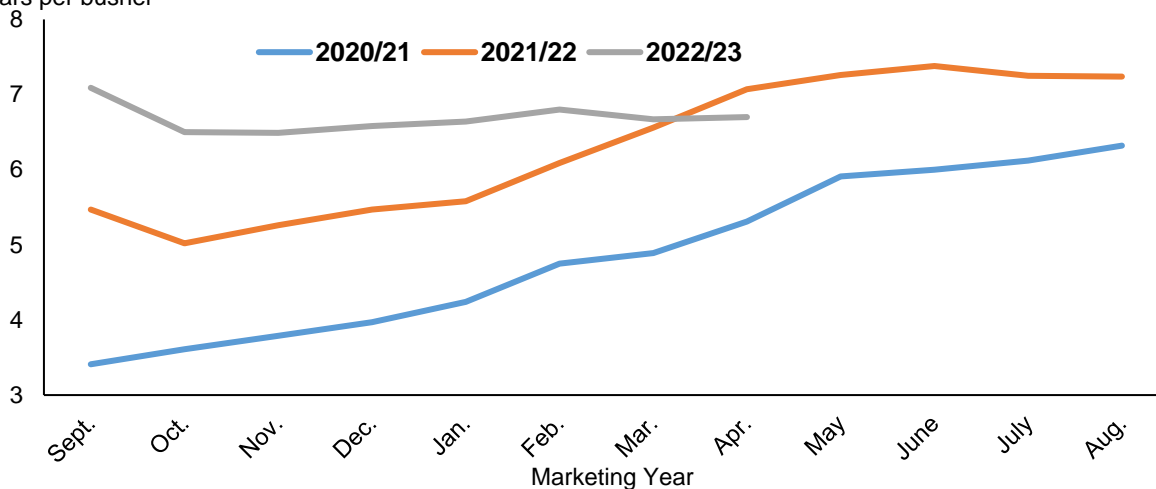
U.S. corn-ending stocks moved higher for 2022/23 on the reduced export. Corn imports for 2022/23 were lowered to 25 million bushels due to a slow pace and weakening export potential. Ending stocks for the current marketing year increased to 1.452 billion bushels. If realized, the stocks-to-use ratio is estimated at 10.6 percent.

Prices received by farmers for the 2022/23 crop continue at levels seen since the start of the calendar year. In its latest *Agricultural Prices* report, the USDA's National Agricultural Statistics Service (NASS) reported that the national average price received for corn in April came in at \$6.70 per bushel (see figure 2). Since the marketing year high price of \$7.09 per bushel posted last September, corn prices fell through the harvest window and have leveled out as we proceed into the last quarter of the marketing year. Most U.S. corn is historically marketed during the first half of the marketing year. With limited remaining corn supplies in the later part of the marketing year, the impact of recent price movements is minimal and the season-average farm price for corn remains estimated at \$6.60 per bushel.

Figure 2

U.S. price received for corn, by marketing year

Dollars per bushel



Source: USDA, National Agricultural Statistics Service.

Ending stocks in 2023/24 are projected to total 2.257 billion bushels—a 35-million-bushel increase from the May *WASDE* report's projection. A larger supply (based on

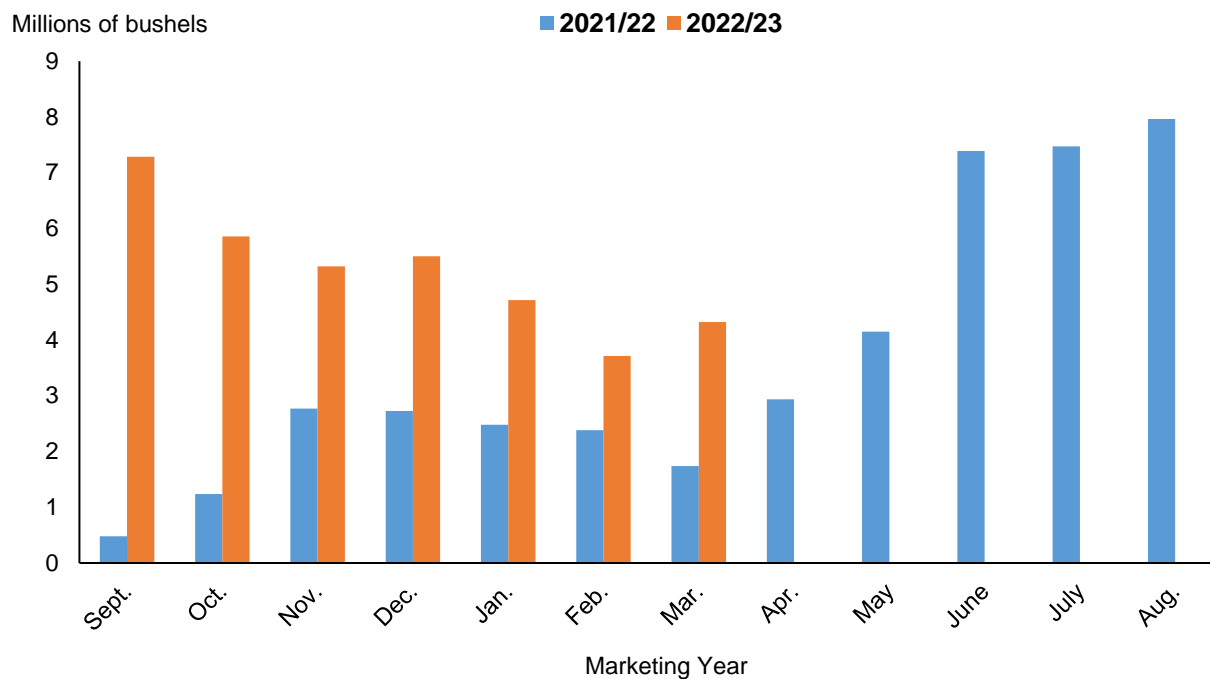
higher beginning stocks) provides the basis for the increase, as production and demand projections remain unchanged. If realized, this increase would result in a stocks-to-use ratio of 15.6 percent, a level not seen since the 2018/19 marketing year. The season-average farm price for 2023/24 remains projected to be \$4.80 per bushel.

Sorghum FSI Are Estimated Higher on a Strong Ethanol Crush

A continuation of strong sorghum use for ethanol necessitates an increase in the food, seed, and industrial (FSI) category by 5 million bushels to 55 million (see figure 3). While the export pace for the 2022/23 crop picked up in the second half of the marketing year, sorghum exports remain on track for 90 million bushels. Despite the poor crop last year, reduced exports provided a sorghum availability for ethanol production. Feed and residual use is lowered 5 million bushels to 65 million, in an offset for sorghum use in ethanol. The domestic use estimate for 2022/23 remains at 120 million bushels. Ending stocks for 2022/23 stay at 25 million bushels. The new crop sorghum balance sheet remains unchanged from May, with an expectation of recovery in supply.

Figure 3

U.S. grain sorghum for ethanol, by marketing year



Source: U.S. Department of Energy, Energy Information Agency.

Barley Exports Are Lower on Pace

Barley exports, as the marketing year ends, are lowered by 1 million bushels to 2 million on a slower than expected pace. Ending stocks for 2022/23 increase a similar amount to 67 million bushels. The adjustment to old crop ending stocks moves through to the new crop year and pushes the forecasted supply to 264 million bushels. At present, there is no adjustment to production or demand for the 2023/24 crop year. According to the USDA's NASS *Crop Progress* report, 92 percent of the U.S. barley crop was planted as of June 4, compared with a 5-year average of 95 percent planted. Crop conditions indicated the crop with a good and excellent percentage of 65 early in this crop year, up from 46 percent at the same time a year ago.

International Outlook

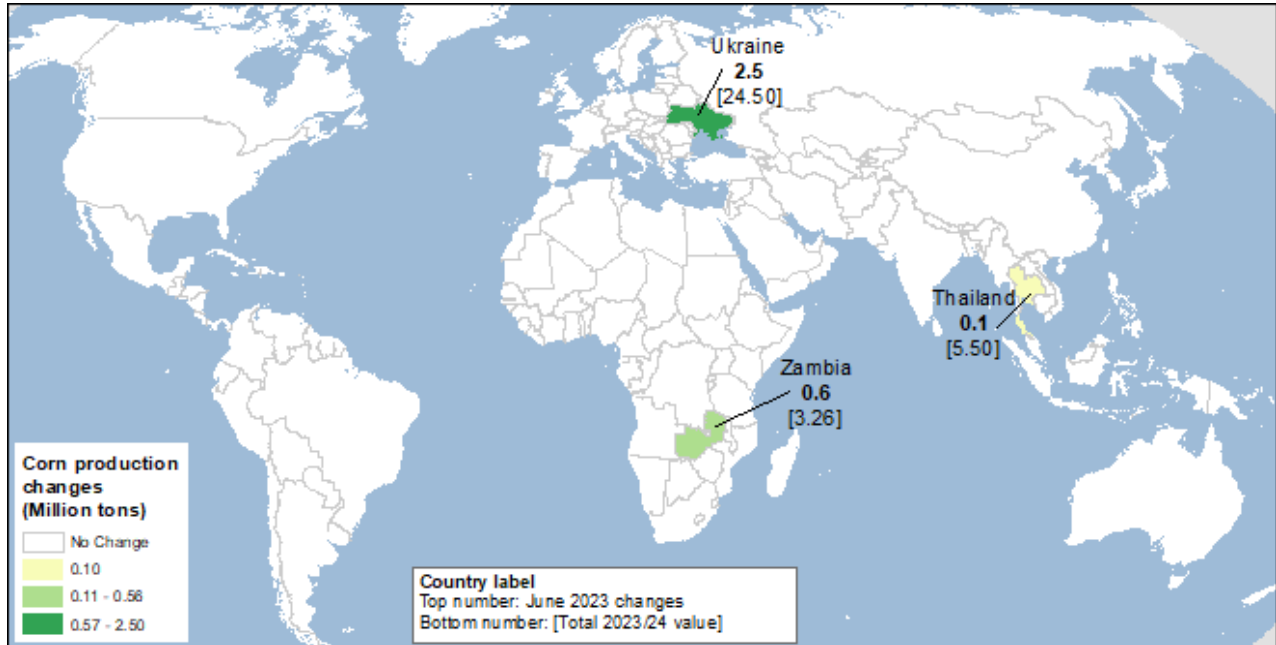
Global Coarse Grain Production Prospects Are Up

Global coarse grain production is projected to reach 1,513.3 million tons in 2023/24, an increase of 3.8 million tons from last month's forecast. The largest increases are for **Ukrainian** and **Zambian** corn production and for **European Union and Turkish** barley, in addition to smaller increases in **Russian, Syrian** and **Iranian** barley. Lower barley prospects in **Iran** and **India** partly offset these increases. This month, **U.S.** coarse grain production for 2023/24 is unchanged. For more information and a visual display of this month's changes in coarse grain production, see tables A1 and A2 below.

Table A1 - World and U.S. coarse grain production at a glance (2023/24), June 2023					
	Region or country	Production	Change from previous month ¹	YoY Change ²	Comments
<i>Million tons</i>					
Coarse grain production (total)					
↑	World	1,513.3	+3.8	+70.2	
↑	Foreign	1,111.3	+3.8	+26.7	Partly offsetting changes are made for a number of countries and commodities. See table A2.
	United States	402.0	No change	+43.5	See section on U.S. domestic output.
World production of coarse grains by type of grain					
CORN					
↑	World	1,222.8	+3.1	+72.0	
↑	Foreign	835.0	+3.1	+33.0	Corn production is projected higher for Ukraine, Zambia and Thailand. See table A2.
	United States	387.7	No change	+39.0	See section on U.S. domestic output.
BARLEY					
↑	World	148.0	+0.6	-4.0	
↑	Foreign	144.0	+0.6	-4.2	Higher barley production is projected in Ukraine, Turkey, and the European Union—among several others. The increase is partially offset by declines in India and Iran. See Table A2.
	United States	4.0	No change	+0.2	See section on U.S. domestic output.
¹ Change from previous month. ² YoY: year-over-year changes. ³ Totals may not add due to rounding.					
For changes and notes by country, see table A2.					
Source: USDA, Economic Research Service calculations based on USDA, Foreign Agricultural Service, <i>Production, Supply and Distribution</i> database.					

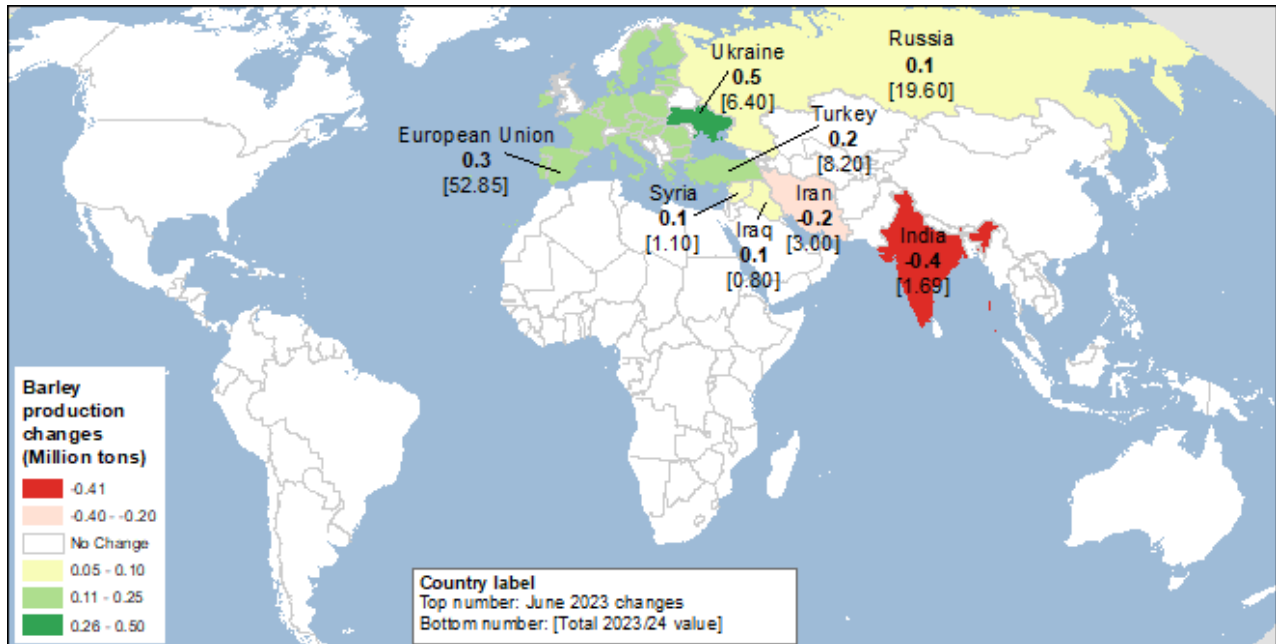
The largest change in production this month is increased corn prospects in **Ukraine** for the **2023/24** crop year, projected 2.5 million tons higher to reach 24.5 million. The increase is driven by higher reported corn area. Maps A and B below present the forecast for monthly changes in projected corn and barley production for 2023/24.

Map A – Corn production changes for 2023/24, June 2023



Source: USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

Map B – Barley production changes for 2023/24, June 2023



Source: USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

Table A2 - Coarse grain foreign production for 2023/24 at a glance, June 2023

Type of crop	Crop year	Production	Change in forecast ¹	YoY ² change	Comments	
<i>Million tons</i>						
2023/24 Crop year						
UKRAINE						
↑	Corn	Oct-Sep	24.5	+2.5	-2.5	Ukraine's corn production is projected higher, based on increased area planted, reported by the Ministry of Agriculture.
↑	Barley	Jul-Jun	6.4	+0.5	+0.2	Ukraine's barley production is projected higher, based on favorable weather and higher projected yields.
ZAMBIA						
↑	Corn	May-Apr	3.3	+0.6	+0.6	A corn production increase is based on higher projected area.
THAILAND						
↑	Corn	Jul-Jun	5.5	+0.1	+0.3	The increase is based on slightly higher area, due to a shift from rice to corn, which has more flexible water requirements.
EUROPEAN UNION (EU)						
↑	Barley	Jul-Jun	52.9	+0.3	+1.1	Higher yields are projected for Romania's barley crop on favorable weather conditions.
SYRIA						
↑	Barley	Jul-Jun	1.1	+0.1	+0.4	A revision is based on higher projected yield from improved growing conditions.
TURKEY						
↑	Barley	Jun-May	8.2	+0.2	+0.8	A revision is based on higher projected yield.
RUSSIA						
↑	Barley	Jul-Jun	19.6	+0.1	-1.9	Higher yields are projected, based on favorable crop establishment conditions in several key producing regions.
IRAN						
↓	Barley	Jul-Jun	3.0	-0.2	No change	A revision is based on lower yield, due to below average weather conditions in the East of the country.
INDIA						
↓	Barley	Apr-Mar	1.7	-0.4	+0.3	A revision is based on the Government's 3 rd advanced estimate.
IRAQ						
↑	Barley	Jul-Jun	0.8	+0.1	+0.1	A revision is based on a higher projected yield.
2022/23 Crop year						
BRAZIL						
↑	Corn	Mar-Feb	132.0	+2.0	+16.0	The increase moves production to a record high, 16 million tons larger than the previous year. Abundant rainfall for <i>safrinha</i> corn growth and development favor higher estimates.
ARGENTINA						
↓	Corn	Mar-Feb	35.0	-2.0	-14.5	A lower projected yield, in line with harvest data.
MEXICO						
↓	Corn	Oct-Sep	26.5	-1.1	-0.3	A reduction of corn area is based on higher input costs that persuade farmers to switch to more profitable crops, such as agave.
↓	Barley	Jul-Jun	0.9	-0.1	-0.2	A reduction in barley area is based on limited water access. Rainfall was insufficient in major growing areas and only those with irrigated systems will be encouraged to plant.
SOUTH AFRICA						
↑	Corn	May-Apr	17.0	+0.3	+0.9	A revision is based on higher yields, based on official statistics.
INDIA						
↑	Corn	Nov-Oct	36.0	+1.4	+2.3	A revision is based on the Government's 3 rd advanced estimate.
↓	Sorghum	Nov-Oct	4.0	-0.1	-0.2	A revision is based on the Government's 3 rd advanced estimate.
↑	Millet	Nov-Oct	13.2	+1.3	+1.3	A revision is based on the Government's 3 rd advanced estimate.
2021/22 Crop year						
PARAGUAY						
↑	Corn	Jun-May	6.4	+0.9	+2.9	Higher projected yield, in line with official data.

¹Change from previous month. Smaller changes are made for several countries, see map A for changes in corn and map B for changes in barley.

²YoY: year-over-year changes.

Source: USDA, Economic Research Service calculations based on USDA, Foreign Agricultural Service, *Production, Supply and Distribution* database.

While **2022/23** harvests in the Northern Hemisphere countries were completed in the fall of 2022, crops are still growing in the Southern Hemisphere and some crops have yet to be harvested. **Brazil's** second-crop corn harvest for **2022/23** started in late May and is expected to continue through August 2023. Brazil is a vast country with mixed weather conditions across regions and weather prospects can have a substantial impact on the crop, which could be at different reproductive stages depending upon the region. Precipitation from March through the end of May has been beneficial for the *safrinha* corn crop development across the country. In the Center-West region in Brazil, where Mato Grosso is located, the Mato Grosso Institute of Agricultural Economics (IMEA) reported that 80 percent of corn crop had been planted in an ideal window and even the late planted crop has good prospects given the abundant rains during the season. Mato Grosso—which contributes 40 percent of the total corn production in Brazil—is projecting to harvest a record corn crop. Given improved prospects from sufficient rainfall and favorable crop development across major second crop regions, the forecast for the average Brazilian corn yield is increased to 5.82 tons per hectare and corn production is raised to 132.0 million.

Corn yields in **Argentina** for **2022/23** are projected lower this month, with corn output trimmed 2 million tons to 35 million. The country (which has been suffering from a severe drought) has now harvested about a third of its corn crop, with the yields that are worse than expected. Harvesting has been moving slowly, compared to a 5-year average that can be partially explained by farmers prioritizing soybean fieldwork.

Corn Export Prospects Are Up for 2022/23 and 2023/24

The June forecast for global coarse grain exports for the 2023/24 (October-September) international trade year is up 3.0 million tons to 233.8 million this month. Corn and Barley trade for 2023/24 are projected higher by 2.5 and 0.5 million tons, respectively. The biggest change is in Ukrainian corn exports, which are increased 2.5 million tons to reach 19.0 million, as a result of a large increase in projected corn output for the

country. The **European Union** is projected to increase its corn imports, as the beneficiary of higher Ukrainian supplies.

There are projected corn production increases for the 2022/23 crop year (March-February) in **Brazil**, as it boosts 2022/23 local marketing year exports. **Brazilian** corn exports have been seasonally slow but are expected to accelerate in concert with the 2022/23 second-crop corn harvest. The size of accumulated exports to date suggests that the additional corn will be marketed mostly after September, during the first part of the 2023/24 October-September trade year. The current 2023/24 trade year export projection for Brazil is up this month by 1 million tons to reach 57.0 million. **Argentina's** projected changes for corn exports in the 2022/23 and 2023/24 trade years are reduced equally by 1.0 million tons, due to lower corn prospects for 2022/23 crop year.

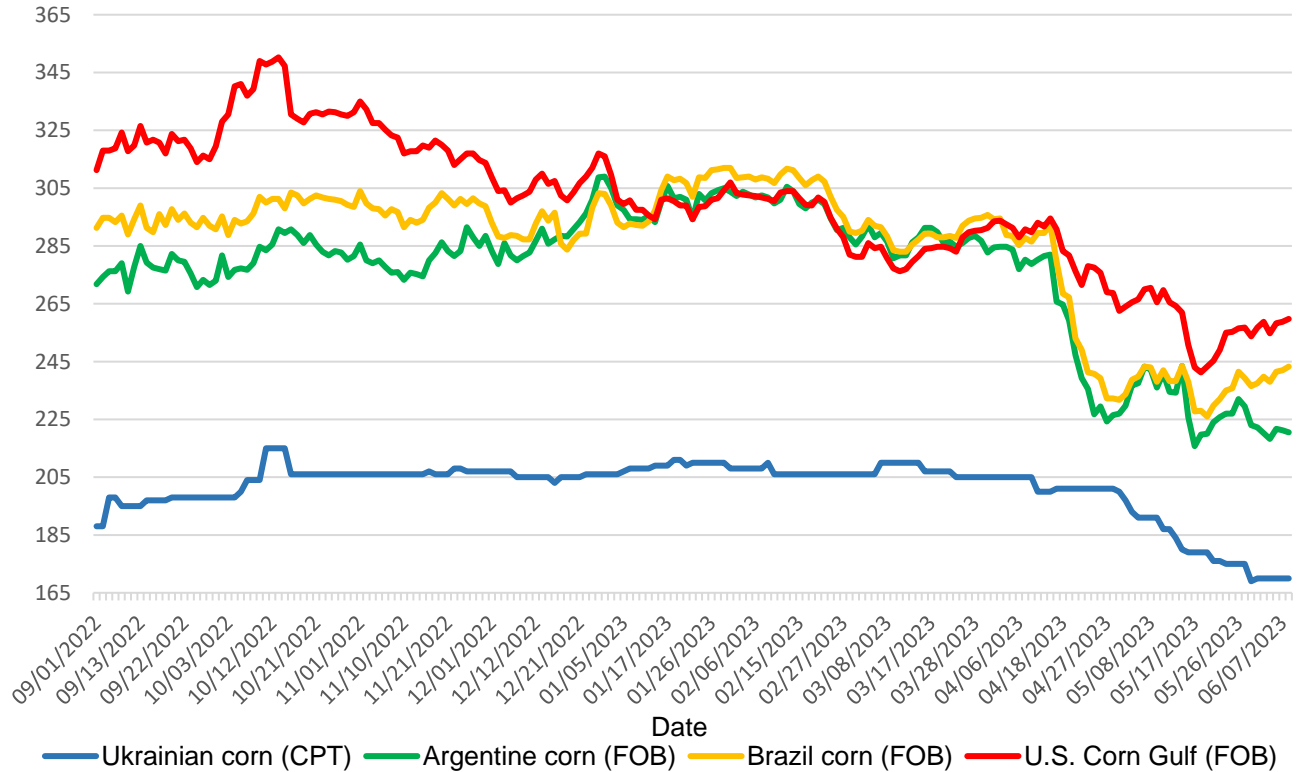
U.S. corn exports for the 2022/23 October-September trade year are projected down 1.0 million tons to 45 million tons (down 50 million bushels to 1,725 million bushels for the 2022/23 September-August local marketing year). The pace of **U.S.** corn shipments during the last few months continued to be slow. According to U.S. Bureau of the Census, corn shipments from October through April are about 15 million tons lower than a year ago, while May corn export inspections are recorded at 5.7 million tons, just under 1 million from a year ago. At the beginning of June 2023, outstanding sales were 6.5 million tons, the smallest level since 2019 and less than 50 percent of outstanding sales from a year ago. An increase in projected corn supplies, exports from **Brazil** and a growing gap in prices between South American (as well as **Ukrainian**) and **U.S.** corn (figure 4) are all projected to further limit **U.S.** exports during the latter part of the 2022/23 marketing and trade year. For a visual display of the changes in corn exports, see map C below.

Barley exports from the **European Union**, **Ukraine** and **Russia** are also increased in 2023/24, following the improvements in barley prospects. **Saudi Arabia's** and **Iran's** barley imports are up 0.3 and 0.2 million tons, respectively.

Figure 4.

Corn export prices by port of origin, September 2022—June 2023.

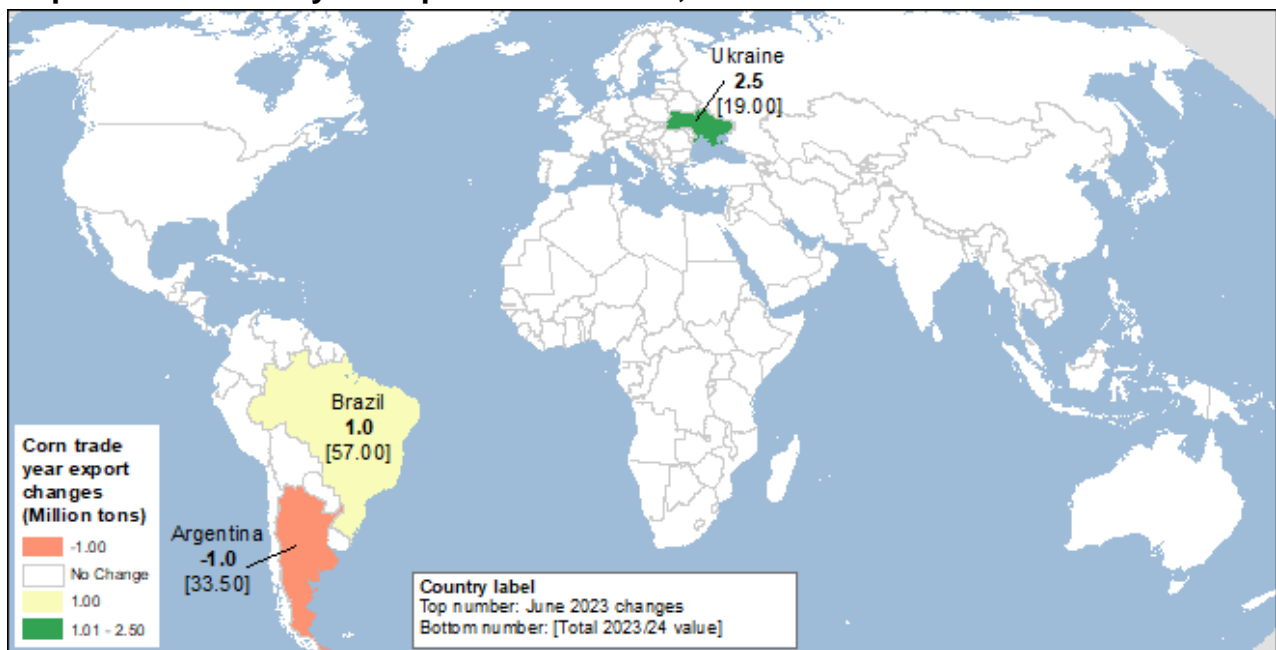
U.S. dollars per ton



CPT=carriage-paid-to
 FOB=free-on-board

Source: USDA, Economic Research Service using data from AgriCensus.

Map C – Corn trade-year exports for 2023/24, June 2023



Source: USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

Coarse Grain Consumption and Stocks Are Higher for 2023/24

The forecast for global coarse grain use in 2023/24 is projected higher this month, up 2.7 million tons from May, with several changes across crops and countries. Global feed and residual use is projected up 2.9 million tons, while FSI is projected down 0.2 million tons.

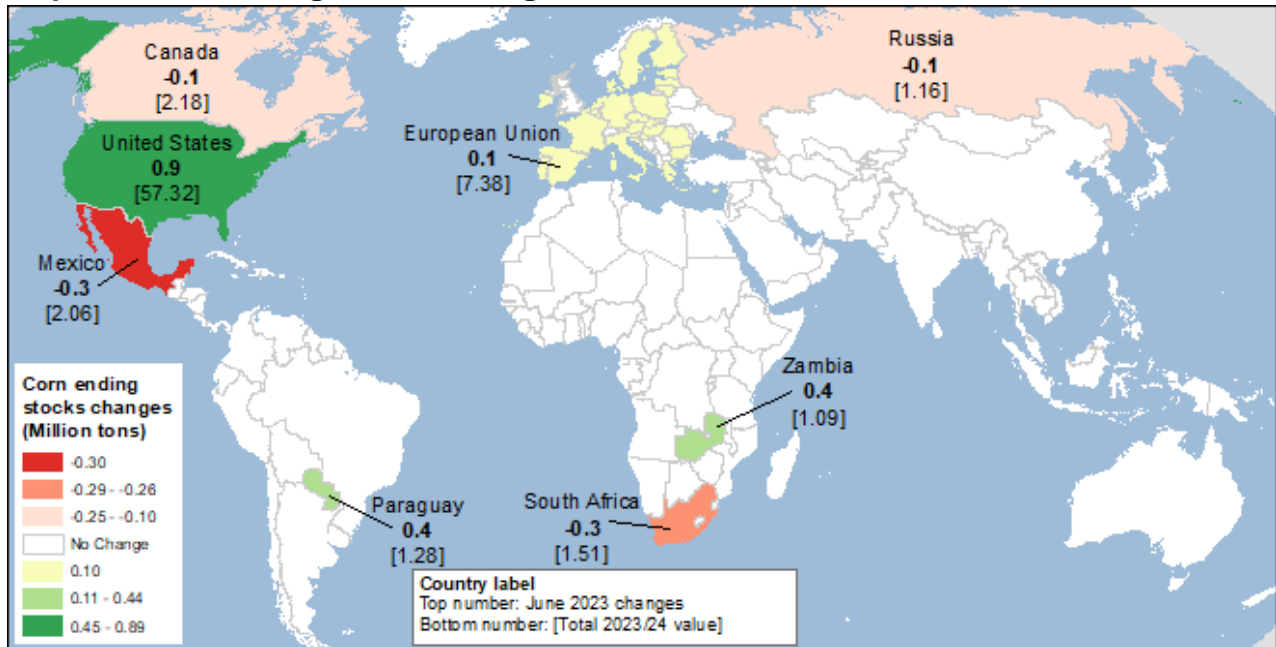
Feed and residual use for corn is projected 2.2 million tons higher than last month, driven primarily by a projected increase of 2.0 million tons by the **European Union** (higher projected imports). **Thailand's** corn use is also increased 0.1 million tons from a month ago. These changes (in combination with additional small changes in other countries) leave global corn use up 2.2 million tons for 2023/24.

Barley use is revised in a number of countries for 2023/24, resulting in a net increase in global barley consumption of nearly 0.5 million tons. Feed and residual use for barley is up 0.7 million tons this month, driven by increases of 0.3 million tons in **Saudi Arabia**, 0.2 million tons by **Turkey**, and an increase of 0.1 million tons each for **Syria** and **Ukraine**. Projected FSI use is also increased by 0.1 million tons for **Ukraine**, but the increase is more than offset by a decrease of 0.4 million tons in **India's** FSI use.

Higher projected global production for 2023/24 leaves coarse grain stocks up 1.3 million tons this month, with changes to several countries. The **United States** sees the largest change in corn ending stocks this month, which are up 0.9 million tons from last month. **Zambia** and **Paraguay** are each raised 0.4 million tons, while the **European Union** is projected to rise 0.1 million tons. Decreases of 0.3 million tons for **Mexico** and **South Africa**, and 0.1 million tons for **Canada** and **Russia**, partially offset the increases to leave corn stocks up 1.1 million tons this month. For a visual display of the changes in corn exports, see map D below.

Global barley ending stocks are projected to be 0.1 million tons higher this month, with several partially-offsetting changes. The **European Union** is projected 0.2 million tons lower, which is more than offset by an increase of 0.2 million tons for **Argentina** and 0.1 million tons for **Ukraine**. Projected barley ending stocks for the **United States** are revised fractionally higher for June.

Map D – Corn ending stocks changes for 2023/24, June 2023



Source: USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

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