



# Feed Outlook: May 2023

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## Feed Grain Supply Is Higher on Large Crops and Beginning Stocks

Expectations for larger crops places the forecast for 2023/24 U.S. feed grain production at 402 million metric tons, up from 358 million in 2022/23. Total supply of feed grains is projected at 443 million metric tons in 2023/24, which outpaces expected demand at 383 million metric tons. Forecast ending stocks for feed grains is projected at 59 million metric tons, up 21 million metric tons from the previous marketing year. Growth in the supply of feed grains is driven largely by corn. Corn supply in 2023/24 is forecast at 16,707 million bushels, up from 15,147 estimated in 2022/23. A larger corn crop and higher beginning stocks combine to bolster the corn supply.

Global coarse grain production for 2023/24 is projected at a new record of 1,509.5 million tons on rebounding production in the United States combined with larger projected crops in Argentina, the European Union, and China. Due to record-high corn production prospects, U.S. corn exports in 2023/24 (October-September international trade year) are projected to represent 28 percent of the global trade share, up from 26 percent in 2022/23. Overall global coarse grain trade is forecast to be higher in the new marketing year—driven by increased export projections for the United States, Argentina, and Brazil. However, part of this projection is forecast to be offset by lowered projected exports from Ukraine and Australia. For 2022/23, Brazil corn production is increased 5 million tons.

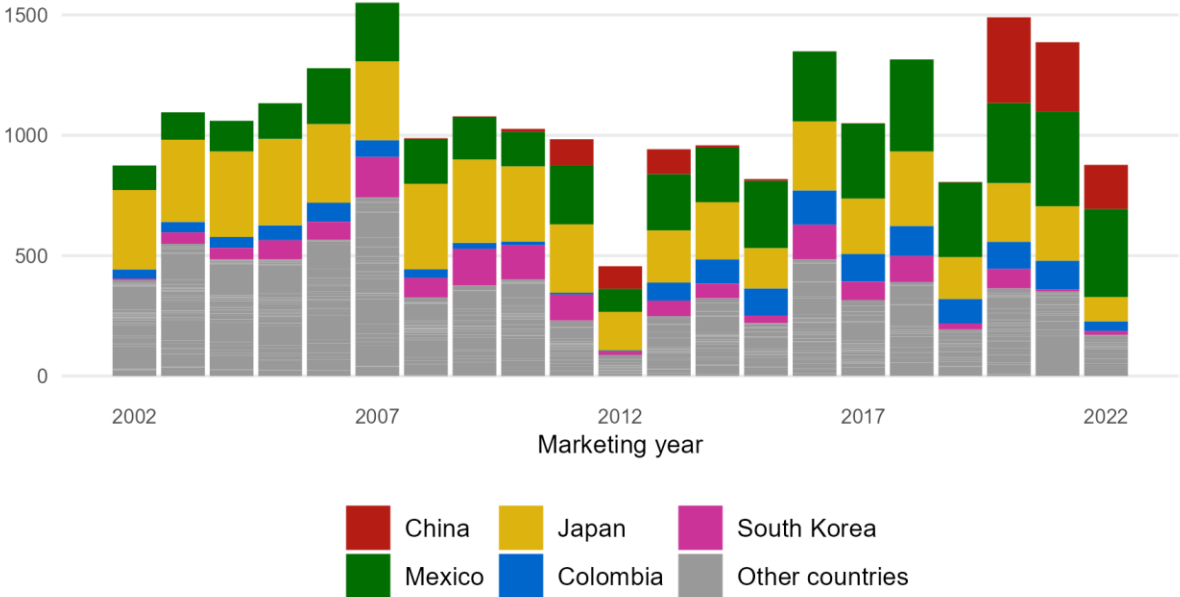
# Domestic Outlook

## 2022/23 Ending Stocks Are Higher on Weak Export Demand

U.S. corn exports for 2022/23 are lowered to 1,775 million bushels, down 75 million bushels from the April *World Agricultural Supply and Demand Estimates (WASDE)* report. Through March, U.S. corn exports totaled 877 million bushels, according to data from the U.S. Department of Commerce, Bureau of the Census. Corn exports through March sit well behind the 1,387 million bushels seen last year over the same period. A good portion of the yearly decline comes from lower exports to East Asia, in particular China, but U.S. corn exports show weaker flows to all regions of the world during the first 7 months of the marketing year (see figure 1). Additionally, total commitments of corn exports (accumulated exports shipped, combined with remaining outstanding sales), from USDA’s Export Sales Reporting Program, show 1,511 million bushels as of May 4, down from 2,302 million bushels in 2022/23. A recent spate of sales cancellations over the last 3 weeks presents a weaker story for corn exports during the remainder of the marketing year, as the global market turns to other sources. For more information on the global corn market outlook, see the International Outlook section of this report.

Figure 1

**U.S. corn exports, September through March, marketing years 2002 to 2022**  
Million bushels



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

The drop in corn demand due to lower exports pushes old crop ending stocks up to 1,417 million bushels. With the current 2023 corn production forecast, new crop supply prospects are abundant.

## Production Recovery Supports Corn Supply Gains in 2023/24

The 2023/24 U.S. corn crop is projected at 15.3 billion bushels, 1.5 billion above last year's drought-impacted crop. Expected corn yield remains at 181.5 bushels per acre, the same as the weather-adjusted trend presented at USDA's Agricultural Outlook Forum in February. Planting progress indicates the crop is being planted in a timely manner, with a few minor exceptions. As of the May 14 *Crop Progress* report, 65 percent of the corn crop had been planted in the 18 reporting States, compared with 45 percent last year and 59 percent for the 2018–22 5-year average.

Beginning corn stocks are forecast at 1,417 million bushels, continuing a trend of beginning stocks growth over the 2 previous marketing years. Total supply is expected to be 16.7 billion bushels, up 2.6 billion from the current marketing year.

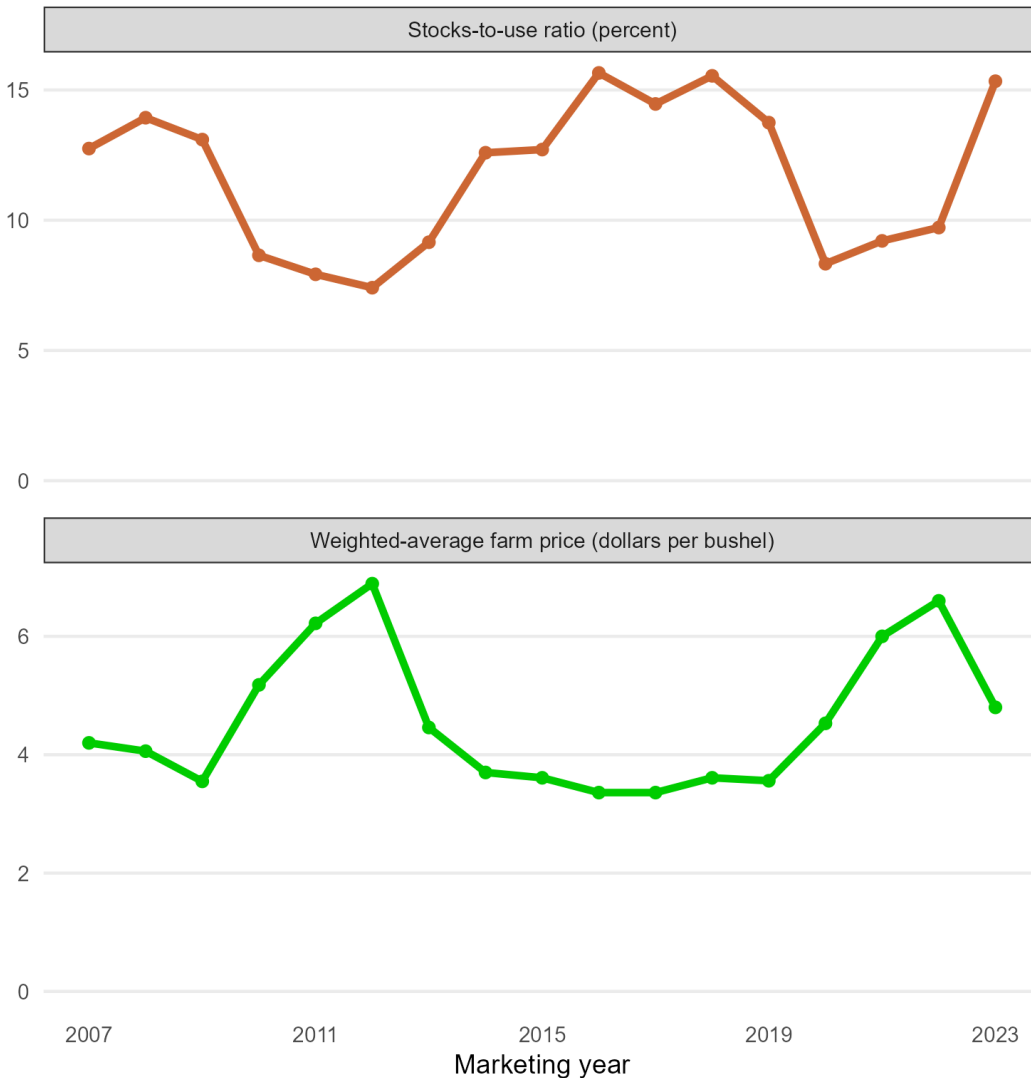
## Lower Corn Prices Expected to Spur 2023/24 Demand

The season average farm price (SAFP) received by corn producers is forecast at \$4.80 per bushel for the 2023/24 marketing year. The \$1.80 drop from the current marketing year estimate of \$6.60 reflects the strong growth in supply expected in 2023. Lower corn prices create an expectation of stronger demand (see figure 2).

Figure 2

### U.S. corn stocks-to-use and farm prices

Percent or dollars per bushel



Note: 2022/23 is estimated, 2023/24 is projected.

Source: USDA, Economic Research Service and National Agricultural Statistics Service.

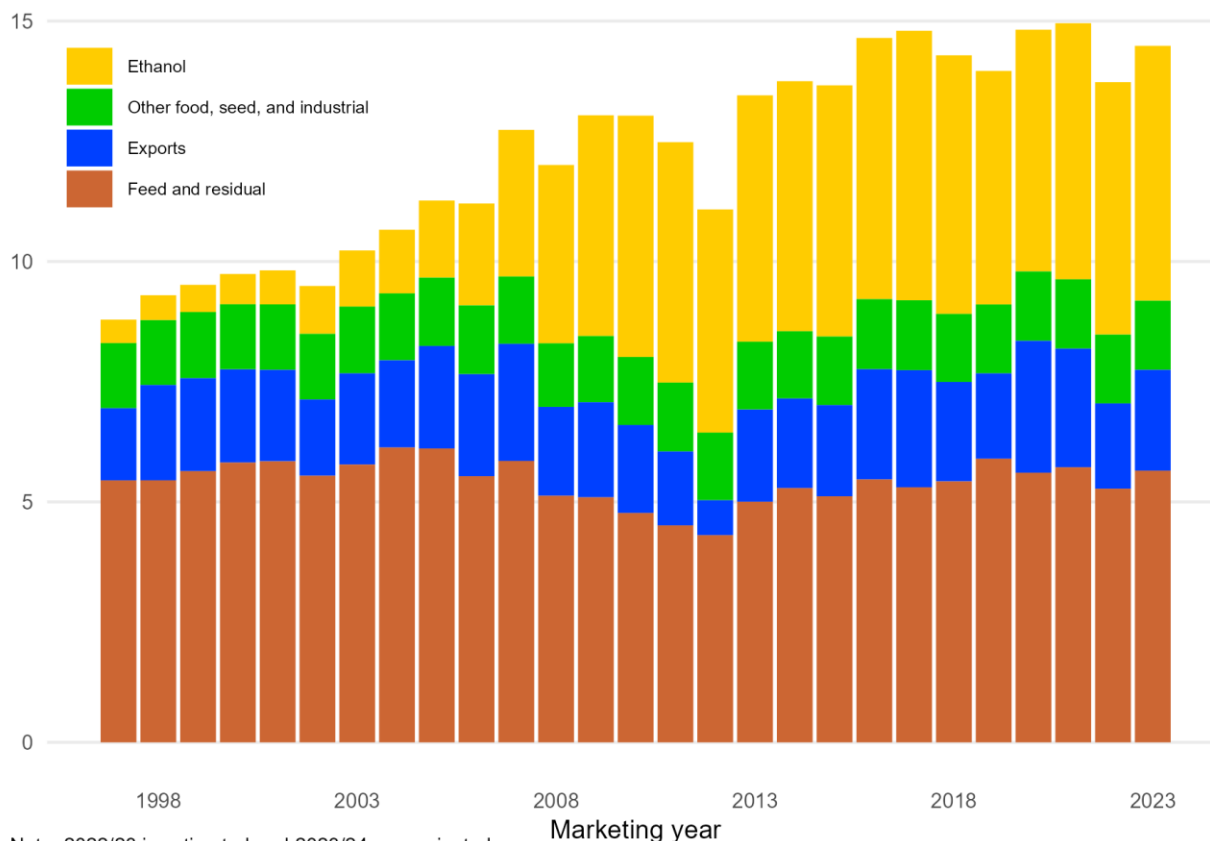
Total U.S. corn use for 2023/24 is projected at 14,485 million bushels, 755 million over the current marketing year estimate but lower than 2020/21 and 2021/22. Disappearance is projected higher on increased use for feed and residual, ethanol, and exports. Feed and residual use is projected at 5,650 million bushels, 375 million higher than 2022/23 on both a larger crop and potential for improved livestock margins, given lower corn prices. Food, seed, and industrial use is expected to increase by 55 million bushels year over year, to 6,735 million, due to increased corn use for ethanol. Increased ethanol corn use hinges on expectations for moderate growth in U.S. motor gasoline consumption and a stronger inclusion rate for ethanol.

Additionally, lower corn prices should improve ethanol crush margins over the next marketing year (see figure 3).

For 2023/24, U.S. corn exports are projected at 2,100 million bushels. If achieved, the projected export total would be up 18 percent from the current marketing year estimate. U.S. corn exports are expected to face strong competition over the forthcoming marketing year on the global market. However, lower global prices under expanded supply look to loosen the demand rationing seen in many countries in 2022/23. U.S. corn exports should benefit from the stronger global demand.

Figure 3  
**U.S. corn utilization**

Billion bushels

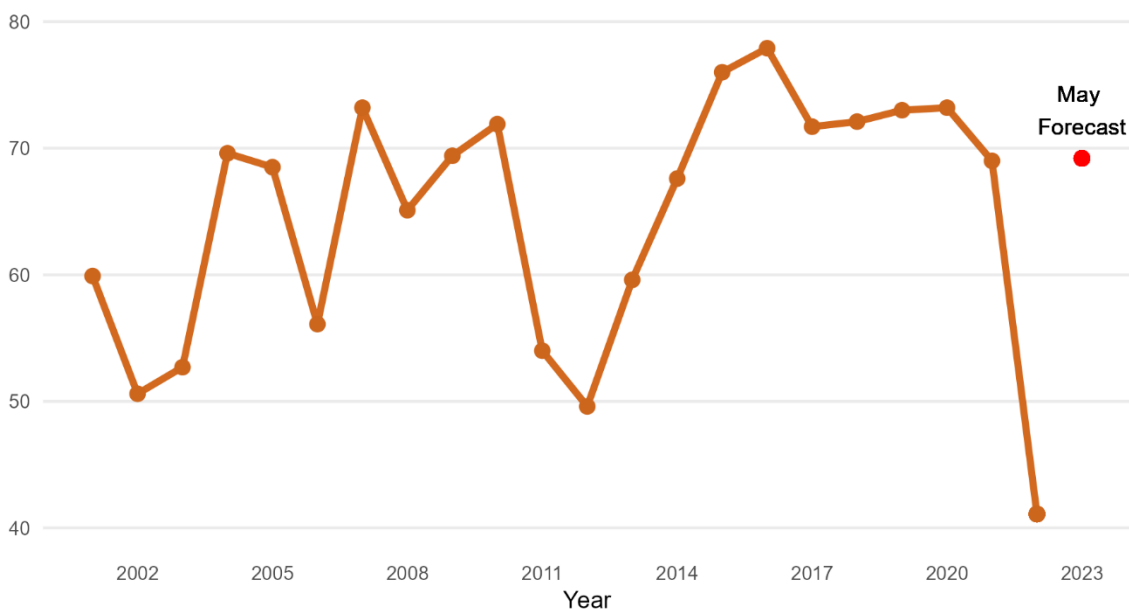


Ending stocks of corn for 2023/24 are projected at 2,222 million bushels, 805 million bushels higher than the current marketing year estimate. At 15.3 percent, the stocks-to-use ratio is projected to recover from very low levels seen since 2020/21.

# Sorghum Production Forecast Reflects Recovery From Drought

While sorghum planted area for 2023–24 is lower than last year, harvested acres and yield are projected to recover from the drought plagued crop of 2022. At 360 million bushels, forecast sorghum production is 172 million bushels larger than last year’s estimated output at 188 million bushels. Much of the main sorghum-growing regions of the United States experienced dry and droughty conditions in 2022/23 that sapped yields. In the new marketing year and on the basis of a return to normal weather, sorghum yields are expected to return to trend and are forecast at 69.2 bushels per acre (see figure 4). Beginning stocks remain at 25 million bushels this month, as there were no changes to the 2022/23 balance sheet. Supply is expected to total 385 million bushels, up 150 million bushels from last marketing year.

Figure 4  
**Sorghum yields, United States, 2000 to 2023 forecast**  
Bushels per acre



Source: USDA, Economic Research Service and National Agricultural Statistics Service.

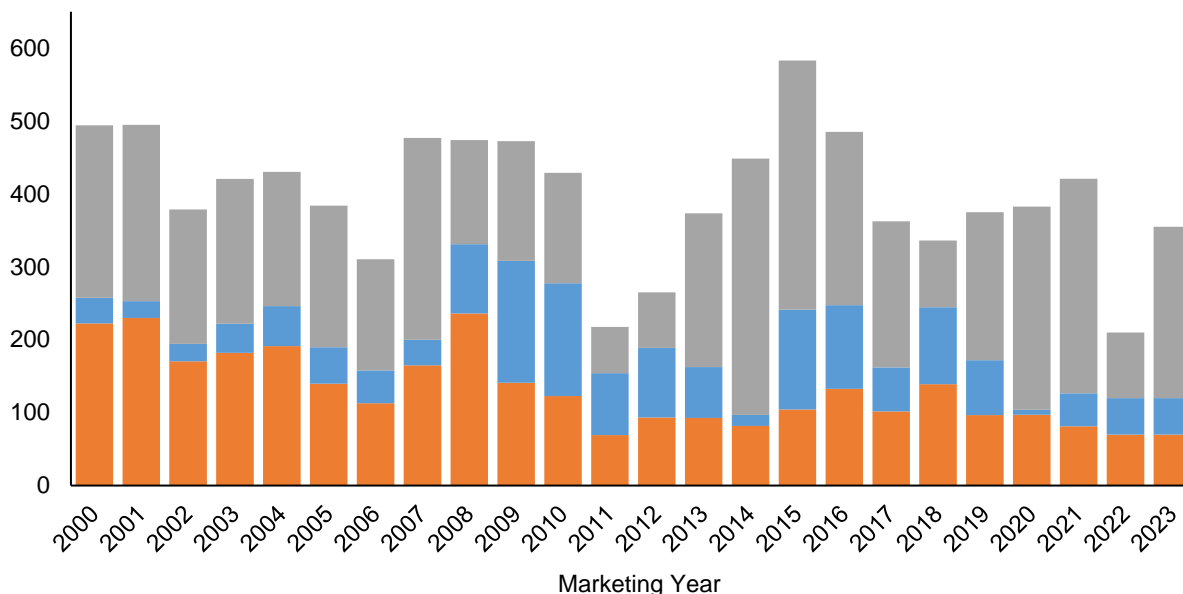
Total sorghum use for 2023/24 is forecast at 355 million bushels, up 145 million over last marketing year. Domestic use is projected to be steady, as ethanol for fuel use remains robust at 48 million bushels. With the recovery of supply, U.S. sorghum exports are projected at 235 million bushels, up 145 million bushels from last year. Availability, lower prices, and an expected recovery in Chinese sorghum buying underpin the expanded sorghum export forecast for the next marketing year (see figure 5).

Figure 5

### U.S. sorghum utilization

Millions of bushels

Feed and Residual FSI Exports



Note: 2022–23 is an estimate, 2023–24 is projected.

Source: ERS calculations based on USDA, *World Agricultural Supply and Demand Estimates* report.

Sorghum ending stocks are forecast at 30 million bushels, up 5 million bushels from last year due to expanded supplies. The forecast for the 2023/24 season-average sorghum farm price is \$4.80 per bushel, down from \$6.90 in the 2022/23 marketing year.

## Larger Barley Supply and Expectation for Lower Prices Support Growing Demand in 2023/24

U.S. barley imports for the 2022/23 marketing year are raised to 23 million bushels, as Canadian barley imports have been robust in the later months of the marketing year. Barley use remains unchanged for the current marketing year. Ending stocks are raised to 66 million bushels on the larger supply.

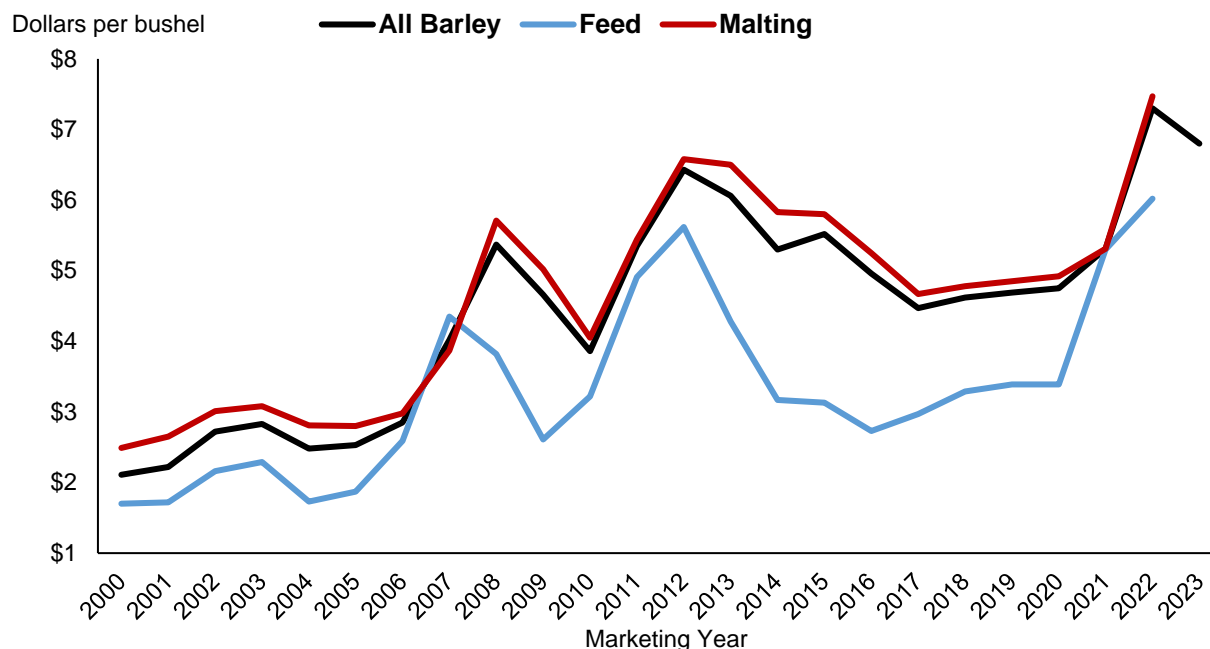
The U.S. barley crop is projected at 183 million bushels in 2023/24, up from last year’s 174-million-bushel crop. Planted area is forecast at 2.9 million acres, with harvested area forecast at 2.4 million. Both area numbers are slightly lower than the previous crop year’s estimates. Yields are up 4.4 bushels per acre to 76.1 bushels per acre. Planting delays due to cold, wet conditions in the northern Plains may impact the projected acreage figures. The increase in imports for the current marketing year pushes barley beginning stocks higher, to 66 million

bushels, and raises 2023/24 supply to 263 million bushels, up from 239 million bushels in the 2022/23 marketing year.

Barley total use in 2023/24 is expected to be up slightly from the current marketing year. Total use of 175 million bushels is up 5 million bushels, driven by larger domestic use. Food, seed, and industrial use is projected to be 135 million bushels, up 5 million from last year, due to an expected increase in the supplies of malting barley. Feed and residual use is forecast at 40 million bushels, unchanged from the 2022/23 estimate. Barley feeding is expected to be on par with last year as June–August feed supplies look to be tight until the new corn crop is harvested. Exports are projected at 3 million bushels, unchanged from 2022/23.

Figure 6

**U.S. price received for all barley, feed, and malting, by marketing year**



Note: 2022–23 is an estimate, 2023–24 is projected  
 Source: USDA, National Agricultural Statistics Service

Ending stocks for 2023/24 are projected at 85 million bushels, up 19 million from the current marketing year. Prices received by farmers for barley in 2023/24 are expected to average \$6.10 per bushel, down from \$7.35 per bushel price received by farmers in 2022/23 (see figure 6). Feed barley prices for 2023/24 of \$4.30 per bushel are down from last year’s estimate of \$6.10, due to an expectation of larger feed grain supply. Malting barley prices are forecast at \$6.30 per bushel, down from \$7.50 in 2022/23, on higher supply.



## Oat Supply and Demand Stable

U.S. oats production is projected at 60 million bushels in 2023/24, up 2 million bushels from 2022/23. Oat yields are forecast to increase by 1.7 bushels per acre, to 66.5 bushels per acre. Area harvested for grain is expected at 900,000 acres, a slight increase from 2022/23. Forecast beginning stocks sit at 32 million bushels. Imports look to bolster domestic supplies and are projected to be 80 million bushels, down 5 million from last year. Canada is expected to decrease its oats production. The decrease in Canadian oats supply is expected to limit available exports to the United States. Total U.S. oats supply for 2023/24 is estimated at 172 million bushels, down 3 million from the current marketing year.

2023/24 oats total use is projected at 143 million bushels, unchanged from 2022/23. At 60 million bushels, feed and residual stays steady from last year's forecast. Food, seed, and industrial use is projected at 81 million bushels, unchanged from 2022/23. Exports of oats are projected at 2 million bushels. Ending stocks are expected to be 29 million bushels, down 3 million on lighter supply. Oats prices for 2023/24 are projected at \$3.30 per bushel. This decrease compares with the season-average farm price of \$4.65 per bushel for 2022/23.

## Grain Consuming Animal Units Are Projected Lower for 2023/24

Grain-consuming animal units (GCAU) for 2023/24 are projected at 98.1 million units, down 1.3-percent from the 2022/23 estimate. The reduction reflects lower projected GCAU for cattle-on-feed, 9-percent lower than the year before at 19.75 million units. Prolonged drought in 2022/23 lowered cows and heifers that have calved, as well as beef replacement heifers for 2023/24, which will result in a smaller pipeline of feeder cattle. This reduction is offset by additional demand from the poultry sector.

On a September-August marketing year basis, total feed grain and wheat residual use for the 4 feed grains (corn, sorghum, barley, and oats) are projected at 149.2 million metric tons for 2023/24, 8.3 million higher than last year's estimate of 140.9 million. Higher availability for corn—by far the largest component of the measure—is offset by less availability of wheat, which is reduced from an estimated 3.2 million metric tons in 2022/23 to 1.9 million metric tons projected for 2023/24.

# International Outlook

## Record-High Coarse Grain Production Is Projected for 2023/24

Global coarse grain production in 2023/24 is projected to reach a new record at 1,509.5 million tons, up 4.7 percent, or 68.2 million tons from the previous year. Of the increase in coarse grain production, the United States accounts for almost 64 percent. Higher global coarse grain area for 2023/24 is projected at 338 million hectares—with increases in corn, sorghum, and mixed grain area harvested partially offset by declines in barley, millet, oats and rye area. The increase in global area is led by higher coarse grain area in the United States (projected at 37.6 million hectares, up almost 6 percent), while foreign area is projected to be down 0.6 million hectares at 300 million, as relatively low prevailing coarse grain prices in some countries have disincentivized crop planting.

As with every year, the May initial assessment of world coarse grain supply and demand projections are highly tentative, as spring planting is still underway in the Northern Hemisphere and months away in the Southern Hemisphere, where the previous year's crop is still developing and being harvested. Uncertainty in the forecast is exacerbated this year by the Russian military aggression in Ukraine, as the war is affecting production and trade in both major grain-producing countries. For most countries and grains, coarse grain yields are projected to return to trend levels, with a rebound for corn yields from last year's drought. Trend yields assume normal weather conditions. For fall planted coarse grains (winter barley and rye planted in the Northern Hemisphere), yield forecasts are less uncertain and can be better assessed.

For 2023/24, global corn area is projected 1-percent higher, with the largest increase in North America (with 79 percent of the increase coming from the United States). Foreign area is projected lower—as the increases in South America and the Middle East are more than offset by the area decline in Ukraine (that is projected to have a year-over-year reduction of 16 percent), the European Union, and several other reductions in East Asia and Sub-Saharan Africa countries.

Barley area in 2023/24 is projected down—with the largest reduction in Argentina, Russia, Tunisia, and Turkey among others. These reductions are partially offset by increases in barley area in India, Morocco, and Mexico.

Sorghum area is expected to increase 3.5 percent from last year due to a projected growth in sorghum demand. Sorghum area is projected higher in Sub-Saharan Africa countries, the United States, India, and Brazil.

The average world coarse grain yield in 2023/24 is projected to reach a record, up almost 1 percent from the last year. An assumed return to trend from low yields in 2022/23 pushes foreign and U.S. corn yields 4.0 and 4.7 percent higher, respectively. Sorghum yields are also projected higher, mainly due to a recovery in the United States and the European Union. Barley yield is projected higher for the United States but down for the rest of the world—along with oats, and rye yields that are projected lower in 2023/24.

U.S. coarse grain production in 2023/24 is projected 43.5 million tons higher, up 12.1 percent, while foreign production (global minus the United States) is expected to increase by 24.6 million tons, or 2.3 percent. The expected record-high U.S. corn crop reflects a recovery from lower corn production in 2022/23. Foreign corn grain production is also expected to expand to a second-high record, reaching 831.9 million tons, up 3.8 percent year to year. A steep growth in global sorghum production takes production to a 62.2 million tons, up 4.8 million or 8.4 percent. Higher output for barley and oats is projected fractionally higher in the United States, but rye is projected lower than last year due to reduced area and yield.

USDA monitors production of various commodities and regions, the data being recorded and updated monthly by USDA's Foreign Agricultural Service (FAS) is reflected in FAS's Production, Supply, and Distribution database.

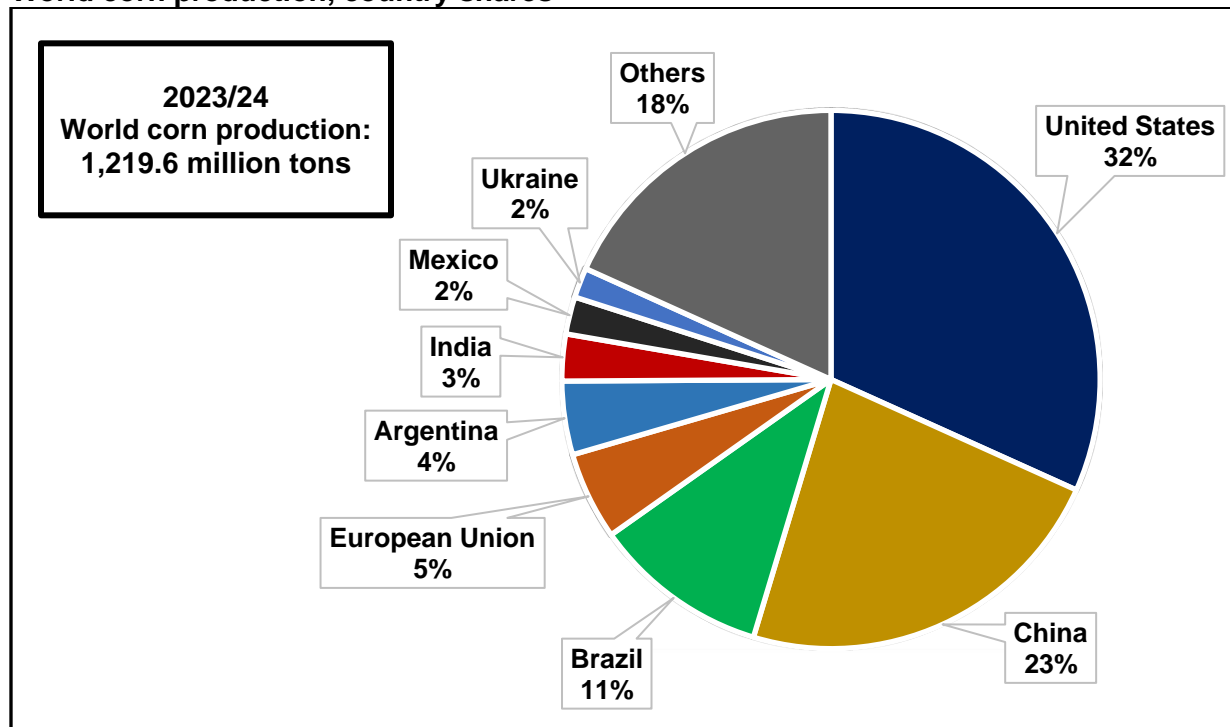
## Regional/Country Coarse Grain Production Prospects for 2023/24

Global corn production is dominated by 8 countries (regions) that produce more than 80 percent of the world's corn. The United States is the top producer, though its world output share has seen a reduction since 2011 as a result of increased Chinese, Brazilian and Argentine corn output. With a sharp reduction in its corn output, Ukraine is projected to produce 22 million tons in 2023/24, positioning it at 8<sup>th</sup> place behind India and Mexico.

See figure 7 below for the projected countries' share in global corn production in 2023/24.

Figure 7

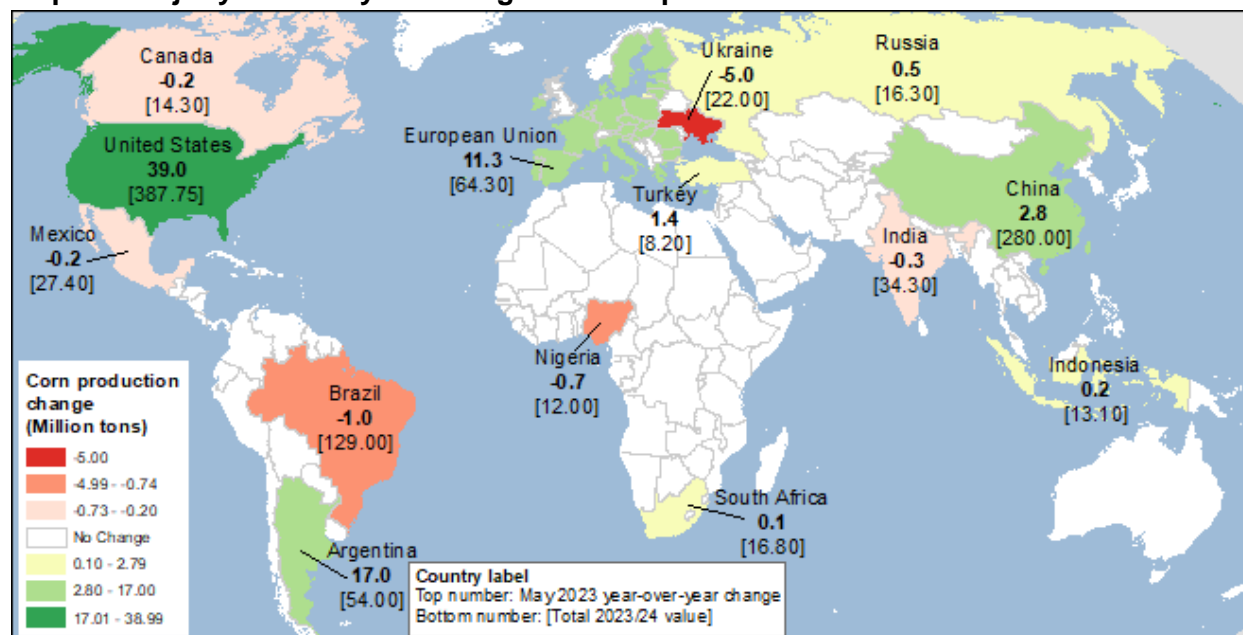
**World corn production, country shares**



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

Map A below presents the forecast for year-over-year changes in projected corn output for the major corn producers.

**Map A – Major year-over-year changes in corn production for 2023/24**



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

The **South American** region, which hosts some of the most dynamic and fast-growing corn producer countries in the world, is forecast to produce 213.4 million tons of coarse grain in 2023/24, 17.3 million tons higher than in 2022/23. Corn is the region's dominant grain, with Brazil and Argentina leading in corn production. After a disappointing 2022/23 corn production year—characterized by drought and extreme temperatures, **Argentina** is projected a return to trend for corn yield. Combined with a 5-percent area increase for 2023/24 leaves corn output projected at a record 54 million tons, an increase of 17 million tons. Area is projected much higher year over year because in the previous 2022/23 crop cycle, Argentinian farmers harvested part of the drought-damaged corn for silage instead of grain, which reduced area harvested.

**Brazil** is projected to see a small increase in its corn area to a record 22.9 million hectares, due to a steady increase in second-crop (*safrinha*) corn area, mainly located in the Center-West of Brazil. The first-crop corn area, which is less than one-fourth of total area planted, has been generally declining since 2008/09. The reduction partially offsets the expansion of the *safrinha* second-crop corn area. The planting of the “*safrinha*” (or second-crop corn) follows the harvest of soybean crop during January and February. Weather conditions play a critical role since the amount of precipitation can affect the pace of soybean harvest and corn planting, and modify risk associated with planting within and outside the ideal window. With a small area increase and a return to trend yield, from the previous year's bumper crop, corn production in Brazil is projected 1 million tons lower to 129 million for 2023/24.

Coarse grain production in **China**, the largest coarse grain and corn producer after the United States, is expected to increase by 2.8 million tons for 2023/24 to a total 288.3 million. Corn, which is projected to reach a new record of 280 million tons, dominates Chinese coarse grain production. An increase in soybean area—in part due to policies supporting soybean expansion—and the increased use of intercropping of soybeans and corn that intend to maximize farmland utilization, have resulted in a small reduction in expected corn area. This reduction in area is offset by higher projected yields from favorable planting conditions across most major production regions in China.

The **European Union** is forecast to produce 12.6 million more tons of coarse grain to reach 146.4 million in 2023/24. Higher corn output, with a return to trend yield in the countries that suffered from hot and dry weather conditions in 2022/23 (such as Hungary and Romania), is partly offset by lower oats production. Output for barley, mixed grain, rye, and sorghum is also projected to increase. The **United Kingdom**, a former member of the European Union and a major barley producer, is projected to reduce barley area and production.

**North Africa's** coarse grain production is projected at 11 million tons in 2023/24, 0.3 million below last year. Algeria and Tunisia's barley crop is forecast down 0.6 and 0.3 million tons, respectively, a decline caused by severe drought conditions in the region. This reduction is partially offset by an increase of 0.4 million tons in barley production in Morocco to 1.1 million, which is experiencing the second drought year in a row, although higher area and below trend but better yields than a year ago are expected. Coarse grain production in Egypt (mostly from irrigated corn) is forecasted to rise slightly, driven by an increase in corn production of 0.2 million tons to total of 7.6 million for 2023/24.

**Australian** 2023/24 coarse grain production is projected down 4.9 million tons to 13.7 million. Area is forecast lower for sorghum, barley and corn—with a fractional increase in oats. Yields for barley, sorghum and oats are projected lower compared to last year's bumper crop in a return to trend yields.

Coarse grain production in 2023/24 for **Sub-Saharan Africa** is projected at 129.1 million tons, lower than the 2022/23 estimate on reduced projected output for corn that is partially offset by increased sorghum, millet, barley, and oats production on the region. **South Africa**—the largest corn producer in the region—is projected to have 16.8 million tons of corn production, driven by a slight increase in corn yield prospects. **Nigeria, Mozambique, Malawi, Mali,** and several other sub-Saharan countries are expecting a reduction in corn prospects for 2023/24, more than offsetting increases in corn production from **Zimbabwe, Kenya, Ethiopia** and **South Africa**.

**Middle East** coarse grain production is forecast 2.6 million tons higher in 2023/24 to 24.2 million, with an increase in both corn and barley prospects. Corn production in **Turkey** is projected 1.4 million tons higher than a year ago to 8.2 million, due to an expansion in corn area as farmers move from growing cotton to growing corn. Reduced cotton demand has driven cotton prices down, causing Turkish farmers to turn to corn as a financially attractive option. Favorable weather conditions during spring—with sufficient rainfall—have contributed to improved prospects in the major corn-growing regions: Central Anatolia, Southeast Anatolia, Cukurova and the Aegean regions.

While barley area in **Turkey** is projected lower, due to farmers shifting to growing other crops such as wheat and onions, improved yields from above average precipitation contribute to a year-over-year boost in barley production of 0.6 million tons to 8 million tons for 2023/24. The same favorable weather conditions that have been widespread across Turkey have also improved barley prospects for neighboring **Iran, Iraq,** and **Syria**—driving projected barley yields higher.

The Russian-Ukrainian military conflict between the two major grain-producing and exporting countries, adds additional uncertainty to the forecast for these two countries and remains more tentative than for the rest of the world. As the conflict continues to evolve, the forecasts will adjust accordingly, using the best available information and knowledge for both Ukraine and Russia.

**Ukraine's** coarse grain production in 2023/24 is projected to be almost 16 percent lower than a year ago at 28.7 million tons on reduced area across all grains and lower yields. **Ukraine's** corn area is projected 16 percent lower at 3.4 million hectares. Although the country has been under military attack, the efforts to sustain agricultural production continue. In addition to reduced area, corn yields are projected to see an impact of the constraints on inputs availability (e.g., fertilizer, high-quality seeds, pesticides, etc.), reducing corn production by 5 million tons to 22 million, the lowest level since 2012.

Coarse grain production for Russia in 2023/24 is projected lower at 42.2 million tons, down 2 million from 2022/23. Unlike Ukraine, Russia is not expected to suffer war-related losses in its crop area and yield. As a major producer of fertilizer, fuel, and other inputs—Russia is one of the few countries in the world that is not impacted by input shortages caused by the war. The corn yield forecast for Russia is expected to follow trend levels supporting a corn crop of 16.3 million tons for 2023/24. Area for barley and oats is projected lower, with low prices impacting planting decisions. Together with a return to trend yields after a bumper year, production for both crops is projected 9 percent lower than a year ago at 19.5 and 4.1 million tons, respectively.

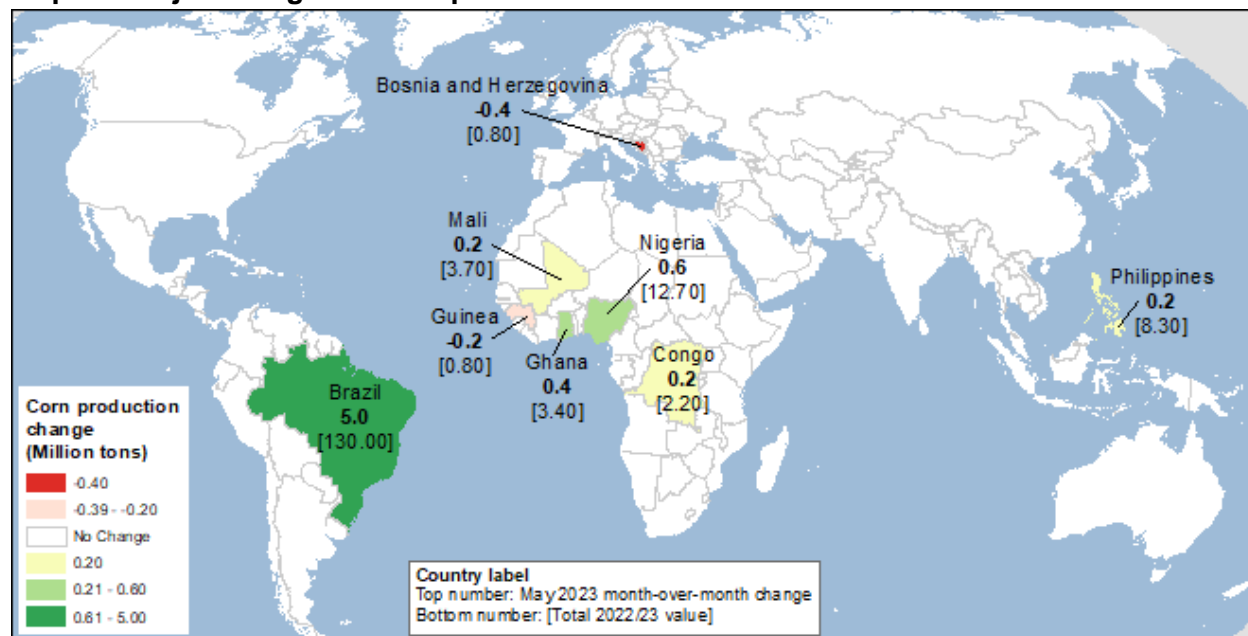
## Changes in Brazil Increase the 2022/23 Production Forecast

Global coarse grain production for the current 2022/23 marketing year is forecast at 1,441.3 million tons, up 5 million from last month, mainly on an increase in corn production in Brazil. By the end of April, Brazil's 2022/23 second-crop (*safrinha*) corn had been planted, with the Mato-Grossense Institute of Agricultural Economics (IMEA) expecting an 11 percent increase in projected area in Mato Grosso. The second-crop is currently going through critical reproductive stages. Plentiful rainfall during April had favored crop development across center west region, with Mato Grosso—representing 36 percent of the total crop and almost half of the second-crop corn production—expecting improved yields from subsoil moisture built in from precipitation. Meanwhile, in Paraná (the second largest corn producing region with 15 percent of corn production), planting has been completed, although a delay in planting has increased the risk of

frost damage after mid-July. With improving soil moisture from sufficient rainfall and good crop development across the country, the forecast for the average corn yield is increased 4 percent to 5.73 tons per hectare, while corn production is raised to 130.0 million.

The **Sub-Saharan Africa's** grain production projections and prior year estimates are reviewed by the *USDA Interagency Commodity Estimates Committee* twice a year, with the most recent being this month. Coarse grain production for 2022/23 is estimated to be 129.8 million tons, with multiple changes across the region. The largest production changes are for Sudan in sorghum and millet production—followed by increased corn prospects in Ghana, Mali and Nigeria. Multiple smaller partly offsetting changes are also made for 2022/23 coarse grain prospects in the region.

**Map B – Major changes in corn production for 2022/23**



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

Global corn exports for the October-September 2022/23 international trade year are lowered this month. This reduction is driven primarily by a 3-million ton reduction in U.S. corn exports, based on significantly lower official reported sales and shipments (see the domestic section of the report) that is partially offset by 2-million ton increase in Brazilian corn exports relative to the April *WASDE* report. The European Union and Canada also see increases in exports of 0.4 and 0.2 million tons, respectively. Global corn imports are up for 2022/23 compared to a month ago, with the largest increase being a 1.1-million-ton increase in imports destined for Vietnam.

Canada and South Korea see corn imports increased by 0.6 and 0.3 million tons, respectively—while Mexico, Saudi Arabia, and the United Kingdom each see increases of 0.2 million tons.



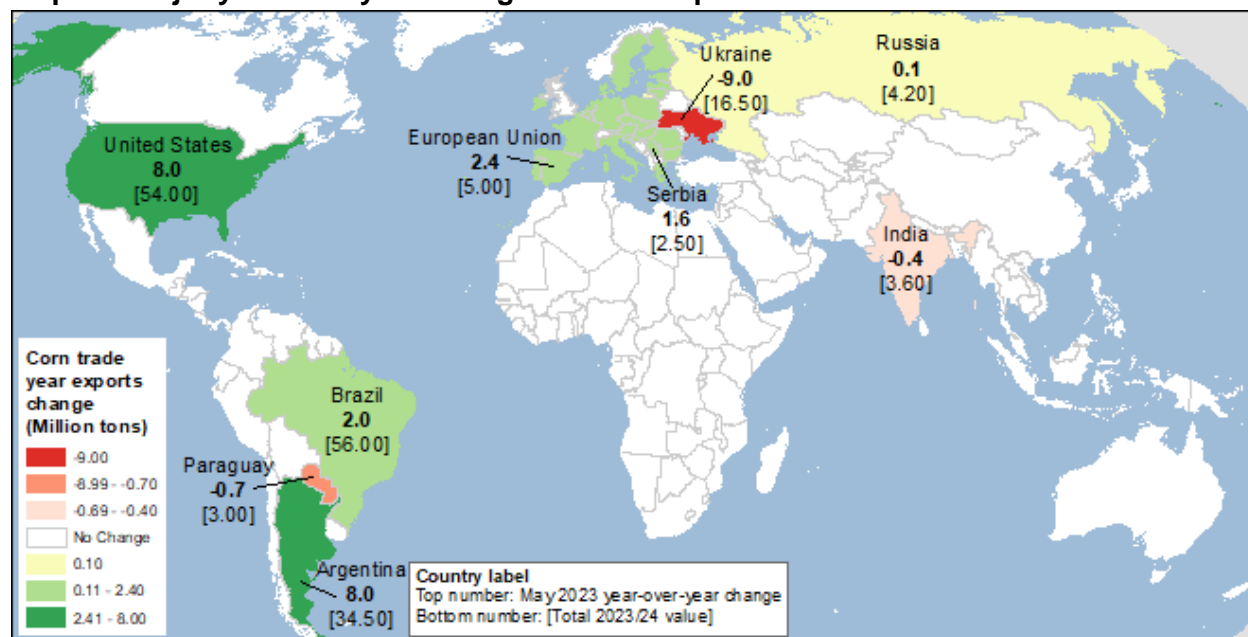
These increases are partially offset by a decrease of 0.5 million tons in corn imports for Egypt, as well as 0.3 and 0.2-million-ton month-over-month reductions in Brazil and Tunisia. Several other smaller changes are also made to the trade balance sheet for both imports and exports.

## U.S. Corn Export Prospects Face Tough Competition in 2023/24

Global corn trade for the October-September 2023/24 international trade year is projected to reach 190.9 million tons, up 12 million from the corn trade forecast for 2022/23.

Ample supplies in most exporting countries in 2023/24 are expected to support strong export competition, with Brazil leading in corn exports for the second consecutive year at 56 million tons, up 2 million tons from 2022/23. The United States is projected to export 54 million tons in 2023/24, up 8 million tons from a year ago and trailing only Brazil. Argentina (the world's third largest exporter) is expected to export 34.5 million tons of corn, up 8 million tons from a year ago, with increased production enabling a 30 percent increase in exports. The European Union and Serbia are both projected to see large increases in corn exports for 2023/24, up 2.4 and 1.6 million tons, respectively, to the totals of 5.0 million tons for the European Union and 2.5 million tons for Serbia. Map C below presents the forecast for year-over-year changes in exports for select countries. A number of other countries are expected to see small increases in corn exports for 2023/24 (including Canada, Russia, Cambodia, Mexico, Moldova, and Tanzania).

**Map C – Major year-over-year changes in corn exports for 2023/24**



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

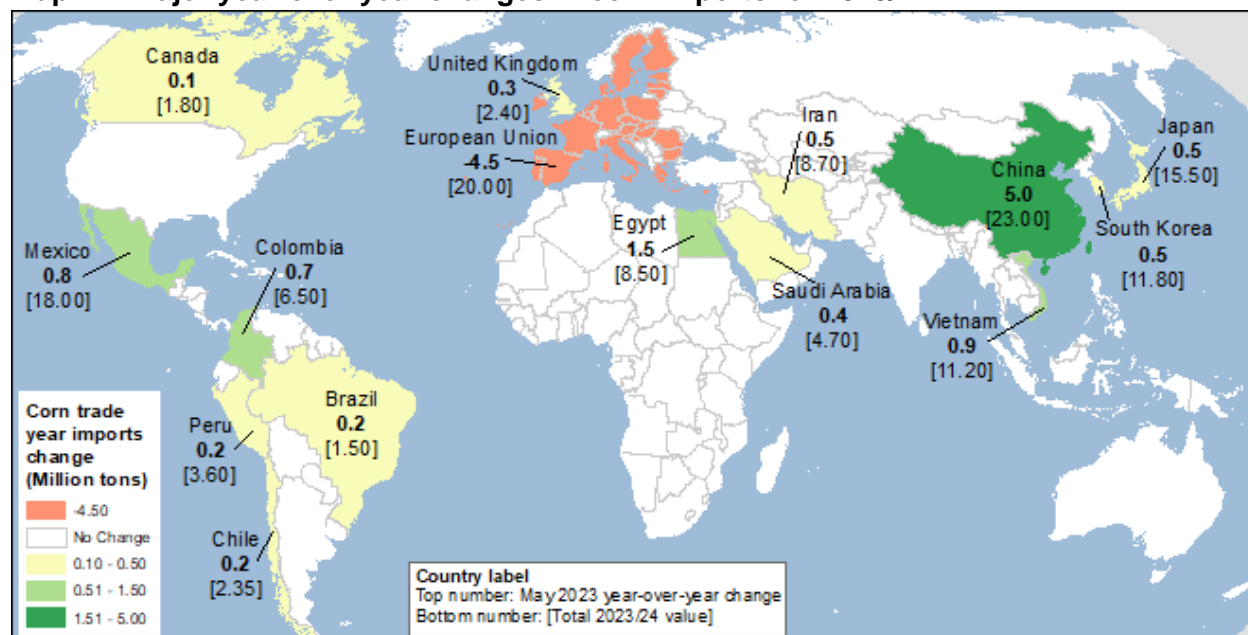
While several countries are expecting increases in corn exports, a handful of other countries are projected to see a reduction in corn exports. Most notably, Ukraine's corn exports are revised 9 million tons lower to 16.5 million tons. Decreased production in Ukraine (due to the country's military conflict with Russia) is the primary driver behind Ukraine's decline in corn production and exports. Paraguay is expected to see a decline of 0.7 million tons in corn exports for 2023/24 to 3 million tons, while India's corn exports are lowered by 0.4 million tons to 3.6 million. Indonesia is expected to see corn exports reduced by nearly 0.3 million tons. The map below provides a look at the size of year-over-year changes in corn trade.

For many importers, the combination of attractive corn prices and strong demand for feed supports the increase in corn imports across major corn importing countries. The largest of these import projections includes **China**, which is expected to import 5 million more tons of corn in 2023/24 to 23 million (as well as 3.2 million tons of additional sorghum), mainly from the United States, Ukraine, and Brazil—in which Brazil recently started exporting corn to China. **Vietnam** also sees an increase of 0.9 million tons in corn imports to 11.2 million tons, mainly sourced from Brazil. Strong demand in a number of other countries (including Mexico, Morocco, Algeria, and Bangladesh) are expected to result in an increase in corn imports from Brazil.

**South Korea** and **Egypt** also increase their corn imports for the trade year 2023/24 to 11.8 and 8.5 million tons, respectively. Several other countries see smaller increases in imports for 2023/24. The **European Union** sees the largest reduction in corn imports of 4.5 million tons to 20 million for 2023/24. With this reduction, the European Union is expected to return to historical levels of imports, which were inflated in 2022/23 due in part to drought and hot temperatures that affected their corn crop and because of an increase in imports from Ukraine resulting from Russia's invasion.

Map D below provides a look at the size of year-over-year changes in corn imports.

## Map D – Major year-over-year changes in corn imports for 2023/24



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

Global sorghum exports are projected to be 3.3 million tons higher for the 2023/24 trade year at 9.8 million tons. Improved production is projected to boost sorghum exports for the United States, which sees the largest increase. U.S. sorghum exports are up 3.8 million tons to 6 million, an almost 170 percent increase from a year ago. Argentina also sees a small increase in sorghum exports, up 0.1 million tons to 1.8 million for trade year 2023/24. These increases are partially offset by a 0.5-million ton decrease in Australian exports to 1.7 million, which are the lowest since 2020/21. Several other fractional reductions are made to countries around the globe.

## Global Coarse Grain Use and Stocks Are Projected Higher in 2023/24

World Coarse grain consumption is projected to be 3 percent higher than a year before, mainly on higher corn consumption (both feed and ethanol use) in the United States and Brazil, and increased higher corn and sorghum use from China.

Lower prices and higher production are expected to drive global corn use higher for 2023/24, with an increase of 43.2 million tons in consumption to 1,204.1 million. With expected low corn prices for 2023/24, feed use in many countries is projected to shift away from relatively more expensive wheat, as wheat is pricing itself out of the feed market. For example, in price-sensitive South Korea, corn consumption is expected to increase, and wheat imports for feed

use are expected to decline during 2023/24, as wheat loses its temporary price advantage over corn.

The **United States** is expected to lead in corn consumption with 314.6 million tons, up 10.9 million tons from a year ago. Much of the consumption increase for the United States is expected to go to feed and residual use, which is projected 9.5 million tons higher to 143.5 million tons. **China**, the second largest global corn consumer is projected to increase corn consumption in 2023/24 by 5 million tons to 304 million tons, driven by an increase in feed use, with continued economic growth in the country.

Higher production in 2023/24 is projected to allow **Argentina** to increase domestic consumption by 1.5 million to 13.5 million, while Brazil increases domestic consumption by 2.5 million tons to 76.5 million. A few other notable increases in domestic corn consumption include an increase of 0.9 million tons for the **European Union** to 79.5 million and an increase of 1.7 million tons for **Egypt** to 16.2 million tons.

Only a small number of countries are projected to reduce domestic corn consumption for 2023/24, with **Ukraine** seeing the largest reduction of 0.7 million tons to 5.5 million. **Malawi** is projected to see a 0.4-million-ton decrease in consumption, while Mozambique is expecting a decline of 0.2 million tons to 2.0 million.

Global corn stocks are projected 15.5 million tons higher to 313 million tons in 2023/24, driven primarily by an increase of 20.5 million tons for the United States. The increase in stocks for the **United States** is partially offset by a decrease of 1.0 million tons in **China's** corn ending stocks. Several other smaller partly offsetting changes are projected for numerous countries.

Global sorghum consumption for 2023/24 is projected 4 million tons higher than a year ago to 61.5 million tons. Much of the change is driven by a 3.2-million-ton increase in Chinese animal feed use that leaves the country's sorghum consumption at 11 million tons. **Brazil** is projected to increase domestic sorghum consumption by 0.7 million tons to 3.6 million, with the entirety of the increase going to feed use. Increases for **China** and **Brazil** are partially offset by decreases of 0.2 million tons in **Sudan** and 0.1 million tons for Bolivia, Ghana and Mexico—as well as fractional changes in several other sorghum consuming countries.

Several partly offsetting changes leave 2023/24 global sorghum stocks up 0.3 million tons to 4 million tons. The United States, Niger and India each are projected to increase stocks by 0.1 million tons, while Argentina is projected to decrease stocks by the same amount.

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