United States Department of Agriculture

Economic Research Service | Situation and Outlook Report

FDS-23l | December 12, 2023

Next release is January 17, 2024

Feed Outlook: December 2023

Aaron M. Ates, coordinator

Olga Liefert

In this report:

Global Corn Production Is Raised for the 2023/24 Marketing Year

Global coarse grain production is projected higher due to higher corn production forecasts for Ukraine, Russia, and the European Union—partly offset by a reduction for Mexico. Barley production for Canada and Australia is also projected higher. Coarse grain exports for the October-September trade year are raised 2.3 million tons. The increased global exports are predominantly due to larger corn export forecasts for the United States and Ukraine, and Australian and Canadian barley—all of which (except for the United States) saw revisions to production estimates for 2023/24 this month. Corn imports are raised for Mexico, barley imports are boosted for China.

The 2023/24 U.S. feed grain production forecast remains unchanged this month at 400 million metric tons. With no changes to the remaining supply components, the 2023/24 U.S. total feed grain supply remains at 439.4 million metric tons. Strong corn exports and healthy outstanding sales, particularly for Mexico, contribute to a 25-million-bushel increase in the 2023/24 U.S. corn export forecast. The corn and sorghum season-average prices received by farmers remain unchanged; however, barley and oats prices are raised to align with reported prices to date.

Domestic Outlook

U.S. Corn Exports Are Raised on Strengthening Demand From Mexico

This month, there are no changes to 2023/24 U.S. corn production. Sitting at 15.2 billion bushels, this current projection is supported by stronger than expected yields provided by the USDA, National Statistics Service (NASS) in November. As farmers wrap-up this year's harvest and report final harvested acreage and yields, January estimates from NASS will provide clarity on the 2023 U.S. corn crop. Nevertheless, the 2023/24 corn supply forecast remains unchanged at 16.6 billion bushels this month, as accumulated corn imports suggest that the United States is poised to hit the current forecast of 25 million bushels.

The USDA, Foreign Agricultural Service (FAS) reported that (as of November 30, 2023) U.S. corn export commitments (accumulated exports plus outstanding sales) were just over 1 billion bushels. This number is nearly 300 million bushels higher than the same time last year and is largely driven by heavy corn purchasing from Mexico. As detailed further in the International section, Mexico's 2023/24 corn production forecast is lowered by 1 million metric tons on lower area. Although higher beginning stocks help alleviate the cut to the overall Mexican corn supply, it is not enough to completely offset such a loss—particularly on the heels of growing Mexican red meat and poultry production. In response, Mexico has ramped up imports of U.S. corn. In fact, U.S. corn exports to Mexico jumped 20 million bushels in October from the previous month, accounting for nearly 64 percent of the October U.S. corn trade (see figure 1).

Export inspection data provide insights to future U.S. export volumes ultimately reported by the U.S. Bureau of the Census. For November 2023, grain inspection data provided by the USDA, Agricultural Marketing Service (AMS) indicate that the United States shipped about 1.6 million metric tons of corn to Mexico. While this number is marginally higher than the October total, it is 900,000 metric tons higher than the November 2022 inspections number. Nevertheless, export inspections data are an indicator—not a fully representative value—of realized exports. This distinction is important, especially as it pertains to export inspections reporting requirements. That is, by law, truck and rail shipments to Canada or Mexico are not required to be inspected. For this reason, and the fact that much of the U.S. corn is shipped to Mexico via truck or rail, it is likely that reported U.S. Census data exports to Mexico for November will exceed 1.6 million metric tons.

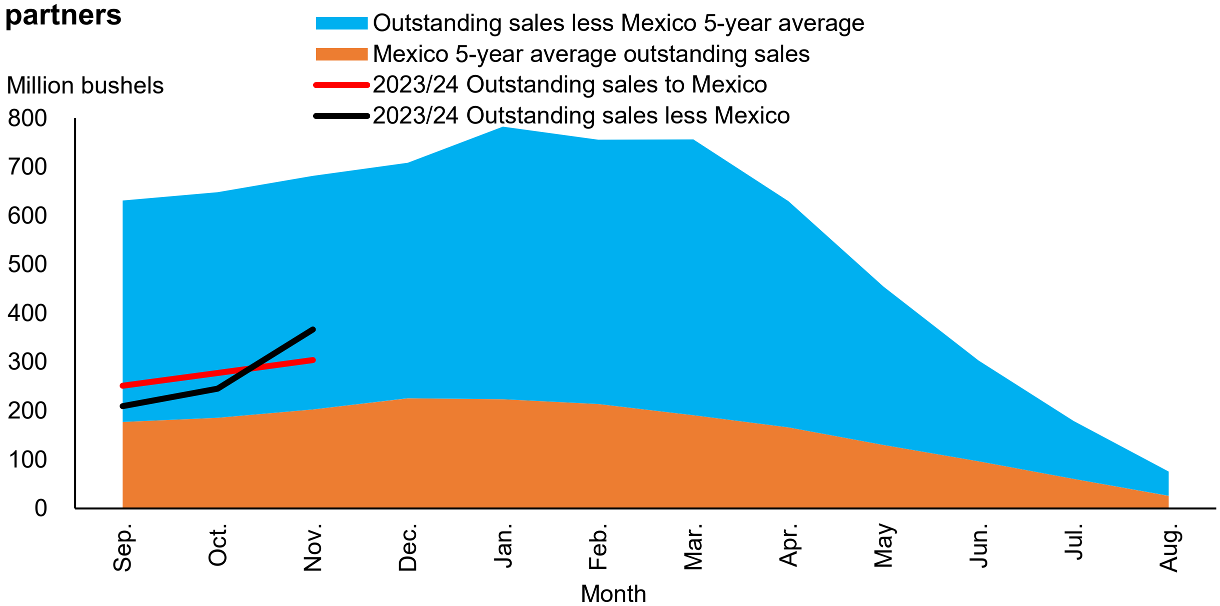
Figure 1
Monthly U.S. corn exports to Mexico and other trade partners

Source: USDA, Economic Research Service using data from USDA, Foreign Agricultural Service, *Global Agricultural Trade System*.

Reported U.S. corn export sales and outstanding sales to Mexico further suggest that November shipments will exceed October volumes. For perspective, U.S. corn export sales to Mexico were 55 percent higher in November than October. Moreover, FAS reported that outstanding sales of U.S. corn to Mexico grew by 9.4 percent over the last month (see figure 2). Thus, despite the growing corn demand by Mexico, November will represent the first month of the 2023/24 marketing year in which more than 50 percent of outstanding U.S. corn sales are not claimed by Mexico. In short, this number signals strong demand in the 2023/24 marketing year for U.S. corn exports. These factors support the 25-million-bushel increase in the 2023/24 corn export forecast to 2.1 billion bushels. This change is reflected in the ending stocks projection, which is lowered to 2.13 billion bushels.

Figure 2

Monthly U.S. corn outstanding sales to Mexico and other trade partners



Source: USDA, Economic Research Service using data from USDA, Foreign Agricultural Service, *Exports Sales Query System*.

2023/24 Barley and Oats Prices Are Raised

The projected 2023/24 season-average price received by barley farmers is raised $0.20 per bushel this month to $7.40 per bushel. This increase reflects higher malt and feed barley prices, to date, averaging $5.42 and $7.64 per bushel, respectively. Oats prices remain strong, with little deviation in October from the average prices received by farmers in September 2023. Consequently, the season-average oats price is raised $0.20 per bushel to $3.60 per bushel.

International Outlook

World Coarse Grain Production Is Projected Higher, Driven by Corn and Barley

World coarse grain production for 2023/24 is projected 2.7 million tons higher from the November *World Agricultural Supply and Demand Estimates* (*WASDE*) report. There are no changes made to U.S. production, rather all the changes result from modifying the outlook for foreign output: Higher corn production projections for ***Ukraine***, ***Russia***, and the ***European Union***—along with increased barley production estimates for ***Canada*** and ***Australia***—are partly offset by lower projected corn crop output in Mexico and Canada.

A number of production changes are made this month for the 2023/24 crop year, across countries and commodities. Changes in global, foreign, and U.S coarse grain production (by grain type) are shown in table A1, while by country and by crop changes are presented in table A2.

Table A1 - World and U.S. coarse grain production at a glance (2023/24), December 2023

Region or country	Production	Change from previous month[1]	YoY change[2]	Comments
	Million tons			c
Coarse grain production (total)				
World	**1,502.0**	**+2.7**	**+54.5**	
Foreign	**1,101.7**	**+2.7**	**+12.4**	Partly offsetting changes are made for a number of countries and commodities. See table A2.
United States	**400.3**	**No change**	**+42.2**	See section on U.S. domestic output.
World production of coarse grains by type of grain				
CORN				
World	**1,222.1**	**+1.3**	**+64.8**	
Foreign	**835.1**	**+1.3**	**+26.2**	Increases for Ukraine, Russia, and the European Union are partly offset by a reduction for Mexico and Canada. See table A2.
United States	**387.0**	**No change**	**+39.6**	See section on U.S. domestic output.
BARLEY				
World	**143.6**	**+1.3**	**-7.9**	
Foreign	**139.6**	**+1.3**	**-8.1**	Higher projected Canadian, Australian, and EU[3] barley output. See table A2.
United States	**4.0**	**No change**	**+0.2**	See section on U.S. domestic output.
OATS				
World	**20.5**	**+0.1**	**-4.6**	
Foreign	**19.7**	**+0.1**	**-4.6**	Higher projection for Canada is partly offset by a fractional reduction for South Africa. See table A2.
United States	**0.8**	**No change**	**Fractional**	See section on U.S. domestic output.

[1]Change from previous month. [2]YoY: year-over-year changes. Fractional changes are made for Canadian rye and mixed grain.

For changes and notes by country, see table A2.

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

Unlike the production of corn, which has been steadily increasing over numerous years because of growth in both area and yields, global barley and oats have not had these dynamics. Although world output for barley and oats is projected higher this month, production of both is much lower than a year ago. This decrease continues a multi-year trend of declining area and slowly growing yields, as market conditions push farmers slightly away from those crops in favor of corn and oilseeds.

Table A2 - Coarse grain foreign production by country at a glance for 2023/24, December 2023

	Type of crop	Crop year	Production	Change in forecast[1]	YoY[2] change	Comments
				Million tons		
Coarse grain production by country and by type of grain (2023/24)						
						UKRAINE
↑	**Corn**	*Oct-Sep*	**30.5**	**+1.0**	**+3.5**	The final weeks of corn harvest reporting give an improved outlook for corn yields, now projected at the third highest level on record.
						RUSSIA
↑	**Corn**	*Oct-Sep*	**17.0**	**+1.0**	**+1.2**	Harvest reports indicate higher yields than projected before, with a boost from the Central region of the country that had excellent growing conditions.
						EUROPEAN UNION (EU)
↑	**Corn**	*Oct-Sep*	**60.1**	**+0.3**	**+7.7**	Both EU corn area and yield are projected higher this month, based on harvest results. Higher area and yields are projected for ***France***. Partly offsetting are a yield-driven reduction for ***Bulgaria***.
↑	**Barley**	*Jul-Jun*	**48.5**	**+0.1**	**-3.2**	Higher area and yields are reported for ***Bulgaria***.
						MEXICO
↓	**Corn**	*Oct-Sep*	**25.5**	**-1.0**	**-2.6**	The official statistical agency reported a reduction in projected area for summer corn, the main corn crop in Mexico. Area is projected the lowest since 2011/12. Rain deficiency during the planting period in the country's corn belt and the damage from hurricanes are the main reason for area decline.
						CANADA
↓	**Corn**	*Sep-Oct*	**15.1**	**-0.2**	**+0.5**	Official post-harvest reports show the recently harvested crop had slightly lower yields than previously forecast.
↑	**Barley**	*Aug-Jul*	**8.9**	**+0.9**	**-1.1**	Official post-harvest reports show the recently harvested crop had higher yields than previously forecast.
↑	**Oats**	*Aug-Jul*	**2.6**	**+0.1**	**-2.6**	Official post-harvest reports show the recently harvested crop had slightly higher yields than previously forecast. Area is changed slightly this month and is 41 percent lower than a year before, which will be the lowest on record.
						AUSTRALIA
↑	**Barley**	*Nov-Oct*	**10.0**	**+0.3**	**-4.1**	Improved growing conditions in key producing areas raise the yield forecast for most winter crops (barley is one of the significant winter crops in Australia). The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) reported preliminary forecasts for area and yields for 2023/24 grains to be in line with projected changes.
						EGYPT
↑	**Barley**	*Oct-Sep*	**7.1**	**+0.2**	**-0.2**	The effect of extreme heat that exceeded the typically very hot weather and harmed corn yields was slightly over-estimated. Yields are still projected at the lowest level since 2009/10 crop year.

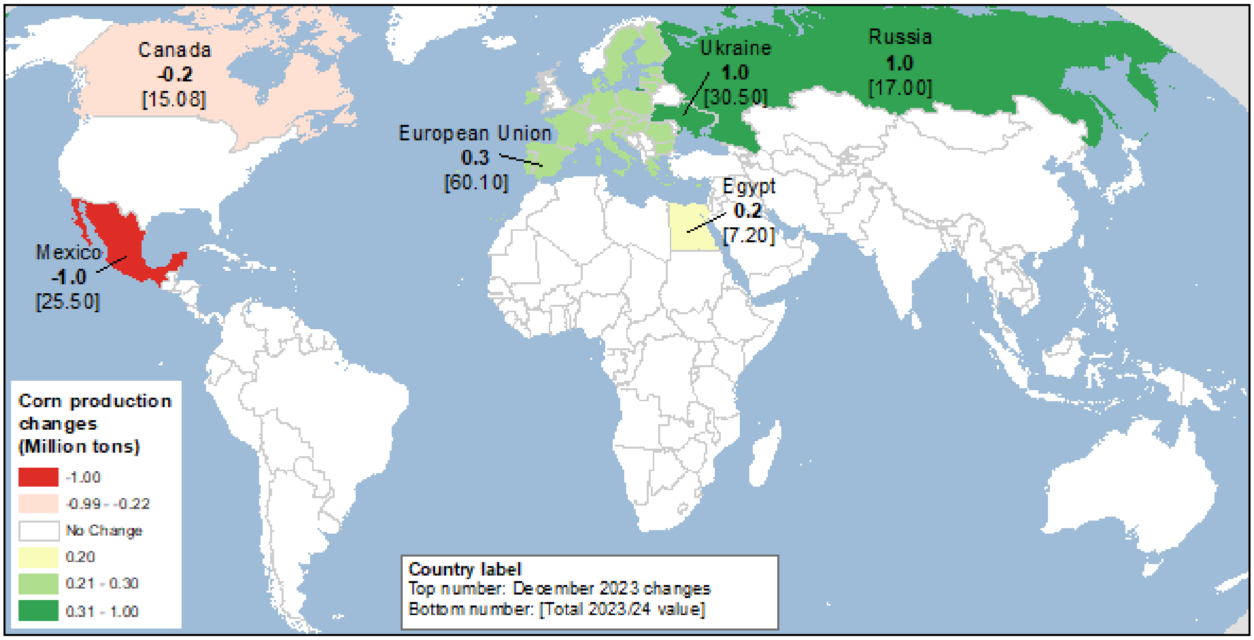
[1]Change from previous month. Smaller changes are made for several countries, see map A for changes in ***corn*** production.

[2] YoY: year-over-year changes.

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

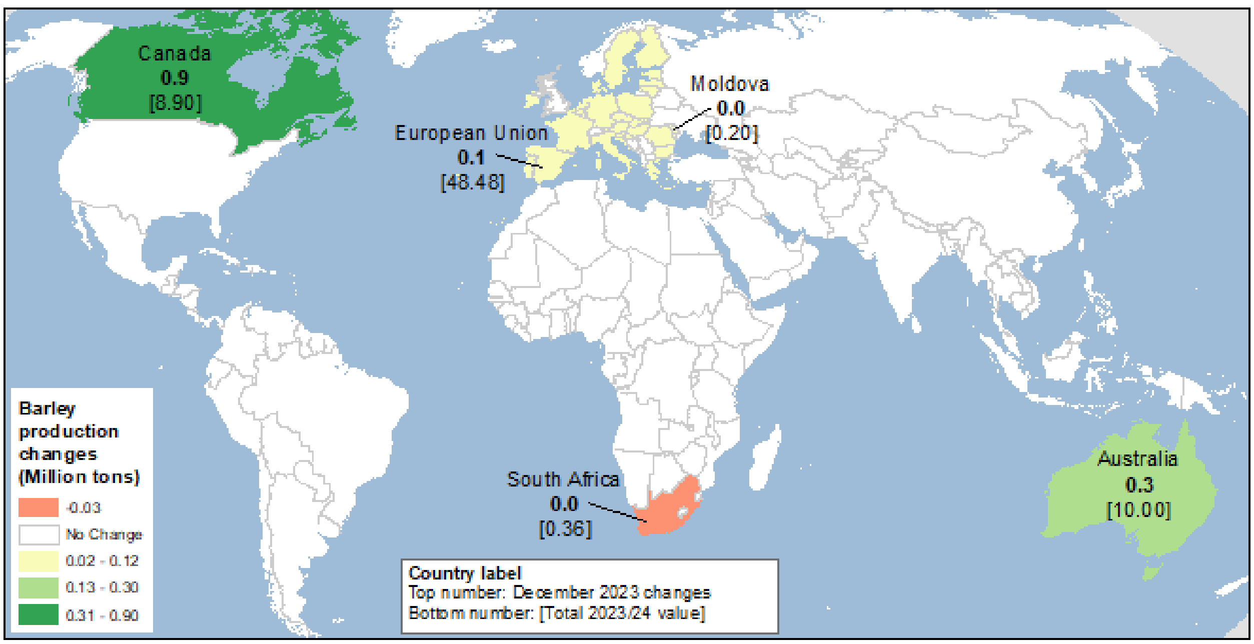
See below map A for changes in corn production and map B for changes in barley production.

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



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

Map B – Barley production changes for 2023/224, December 2023

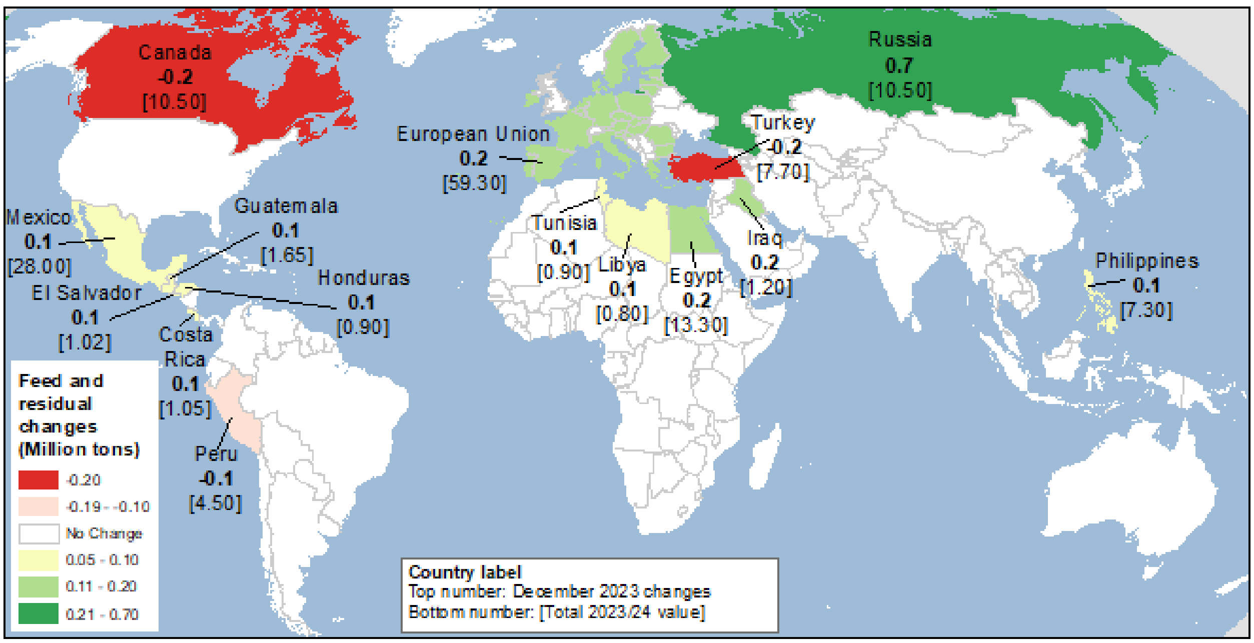


Source: USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

Coarse Grain Use and Stocks Projected Higher

Global coarse grain consumption in 2023/24 is projected 2.8 million tons higher this month at 1,489.9 million tons. All the increase comes from foreign consumption. Revisions for domestic use for many countries follow this month's production changes. The largest increase is projected for corn feed use in ***Russia***, where production is expected to be 1 million tons higher. Additional corn is being produced in the Central Region of this country, that has a sizeable and expanding livestock sector. This region is some distance away from the Black Sea export routes and the additional corn output will most likely be used for feed rather than export. World barley feed use is also up this month, mainly on account of higher supplies in ***Canada*** (greater production) and ***China*** (increased imports). Several smaller changes in coarse grain use are also made this month for a number of countries. For more information on this month's changes in corn feed and residual use, see map C below.

Map C – Corn feed and residual use changes for 2023/24, December 2023



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

Changes in world 2023/24 coarse grain ending stocks are mostly offsetting, with total stocks projected a mere 0.4 million tons higher (0.1 percent) than a month ago, as larger corn stocks in ***Ukraine*** and ***Russia*** are partly offset by a reduction for the ***United States***. Corn ending stocks are projected 0.2 million tons higher (increases for Russia and Ukraine, with a partly offsetting U.S. drop). Barley stocks are unchanged, with offsetting changes for Ukraine and Canada. Other coarse grain stocks are also virtually unchanged.

The United States and Ukraine Lead a Rise in Corn Exports

Projected 2023/24 world coarse grain trade for the international trade year (October-September) is raised in December by 2.3 million tons to 238.5 million, with higher trade for corn and barley.

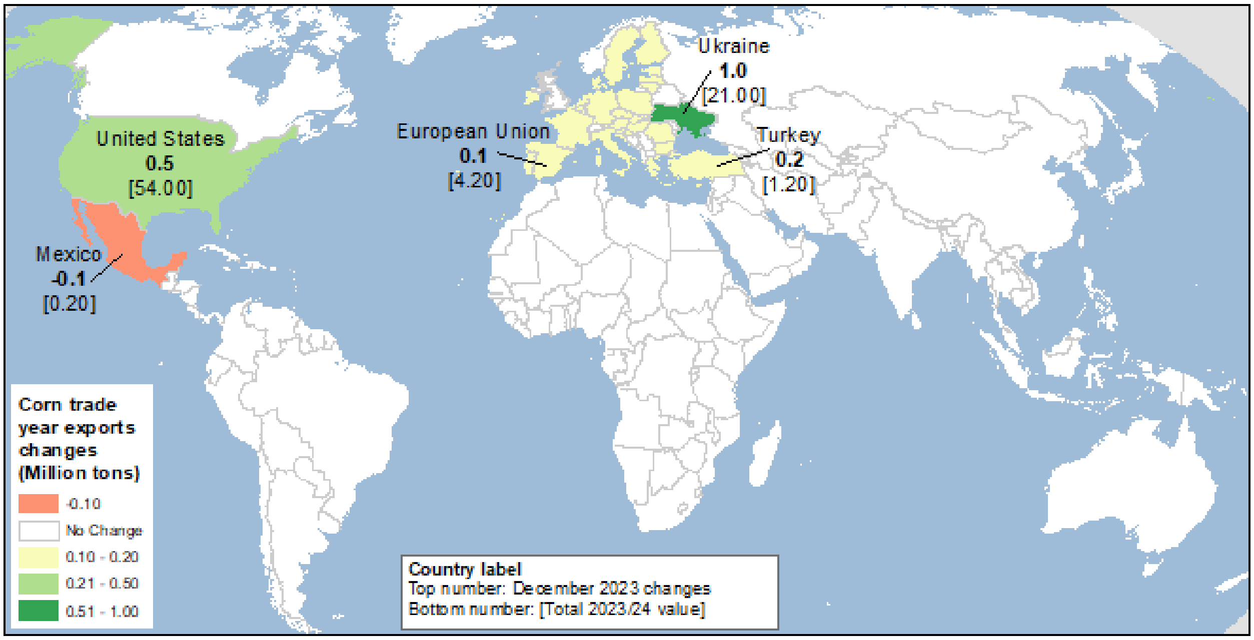
Corn trade is projected up 1.7 million tons this month to reach 199.1 million. ***Ukraine*** corn exports are projected 1.0 million tons higher this month to reach 21 million, still the lowest export volume since 2017/18 (when corn output was 24 million tons). Corn supplies are projected higher this month in Ukraine, as improved corn yields expand production by 1 million tons to 30.5 million. Ukraine is a highly export-oriented country, such that it produces grain and oilseeds largely for export. Typically, domestic consumption of corn in Ukraine is less than 20 percent of its supplies, and given current wartime conditions, that percentage has fallen to 16.5 percent. Under normal circumstances, Ukraine also does not stock much grain. However, corn stocks increase when the country's ability to export grain is hindered. Given the level of current Ukrainian corn supplies, the country could have exported even more corn as its prices continue to be very competitive, if not for Russian military actions impeding exports out of the Black Sea.

Exports of corn are projected higher for ***Turkey***, based on its recent unusually large sales to Iraq and Iran. Based on the European Commission's custom surveillance data, corn exports are also projected slightly higher for the ***European Union***. ***Mexican*** corn exports are reduced, reflecting tighter supplies of white corn.

The ***U.S*** corn export forecast for the 2023/24 October-September trade year is projected 0.5 million tons higher this month at 54.0 million tons. October U.S. Census data and November grain inspections (Agricultural Marketing Service (AMS)) confirmed the high volume of corn exports to Mexico, the major corn destination for the United States. Outstanding sales at the end of November 2023 are 40 percent higher and November grain inspections are up more than 50 percent compared to a year ago, when the United States had a smaller corn crop (lower area and yield) and U.S. price-competitiveness plunged. See map D for the changes in this month's corn exports.

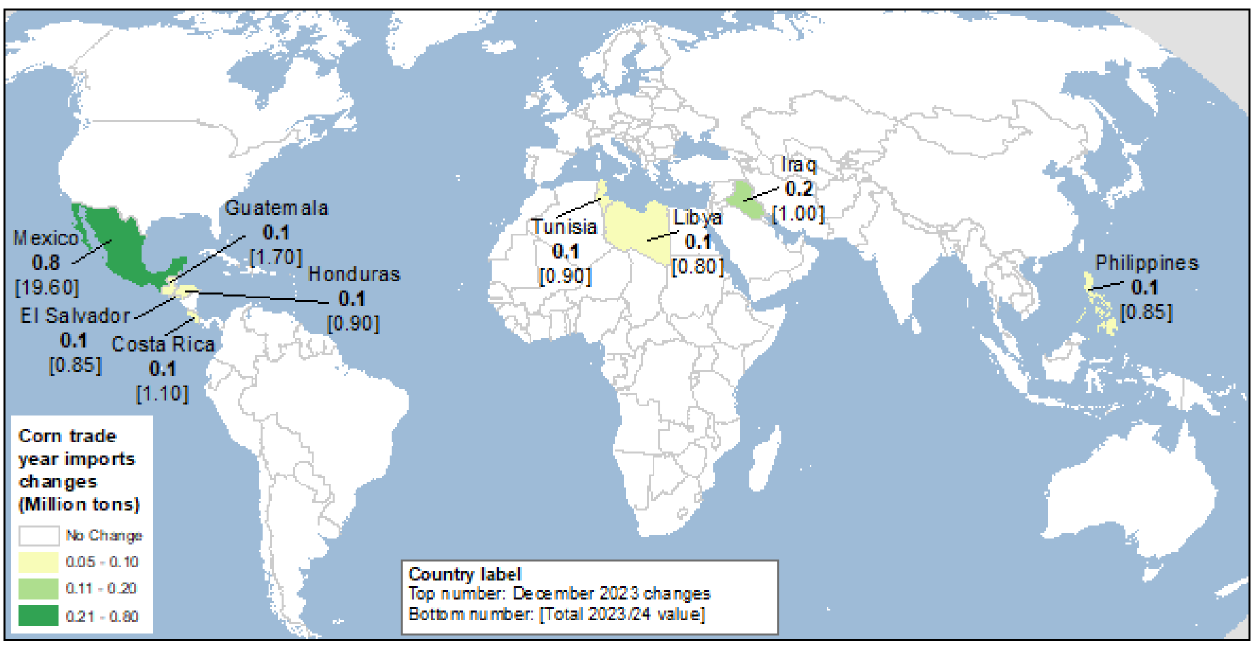
Global corn import prospects are also adjusted up this month. Corn imports for ***Mexico*** are projected 0.8 million tons higher to reach a record at 19.6 million, reflecting tighter domestic supplies and competitive prices in the United States, Mexico's major corn supplier. Also, for 2022/23, Mexican corn imports are estimated 0.6 million tons higher to 19.3 million, based on the final trade data, a record-high level of exports up to that time. Projected corn imports are also increased for ***Iraq*** (additional corn coming from Turkey) and for several other countries, based on recent month's trade data from each respective country, see map E.

Map D – Corn trade-year exports changes for 2023/24, December 2023



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

Map E – Corn trade-year imports changes for 2023/24, December 2023



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

World **barley** trade is raised for 2023/24 compared with the November report, with imports for the October-September trade year 0.6 million tons higher. Barley import projections are raised for ***China*** (0.6 million tons higher), with the added inflows to be used predominantly for feed use. China is expected to take advantage of higher barley production and lower prices in Canada and Australia. Canada is currently one of China's major barley suppliers, and before 2020, Australia was by far the dominant foreign provider. Since 2020, the duties that China has imposed solely on imported Australian barley have effectively blocked the latter's barley exports. However, China recently agreed to re-register two of its important Australian barley suppliers and it is anticipated that barley trade between these two countries will grow.

Barley export projections are raised for ***Australia*** (0.3 million tons) and ***Canada*** (0.3 million tons), based on higher production projections that allow for additional supplies to be exported. All additional barley exports from these two countries are expected to be shipped to China.

Suggested Citation

Ates, A.M., & Liefert, O. (2023). *Feed outlook: December 2023* (Report No. FDS-23l). U.S. Department of Agriculture, Economic Research Service.