United States Department of Agriculture

Economic Research Service | Situation and Outlook Report

FDS-22g | July 14, 2022

Next release is August 16, 2022

Feed Outlook: July 2022

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In this report:

U.S. Feed Grain Production Is Up on Larger Corn Acreage

U.S. feed grain production in 2022 is expected to be slightly higher than last month, reflecting higher planted acreage for corn in the June 30 *Acreage* report. U.S. corn production is raised 45 million bushels on increased harvested acreage. Corn yield remains unchanged, leading to corn production totaling 14,505 million bushels. Corn usage fell by 25 million bushels for 2021/22 on lower feed and residual, due to adjustments from June 1 stock estimates. Corn ending stocks for 2021/22 increased 25 million bushels to 1,510 million bushels. Corn usage in the 2022/23 marketing year remains unchanged.

Barley, oats, and sorghum harvested acreage decreased for 2022, which lowered feed grain production. Lower barley ending stocks for 2021/22 decreased supply for the new crop year and dropped 2022/23 ending stocks by 24 million bushels, when combined with slightly lower 2022 yield projections. Large sorghum stocks pushed 2021/22 ending stocks higher and increased supply for 2022/23. Feed grain ending stocks for 2021/22 increased, and combined with larger corn acreage, offset lower acreage in the other feed grains to marginally increase feed grain supply in 2022/23 from last month.

Foreign coarse grain supplies (corn and barley) for 2022/23 are projected lower this month, while domestic use is reduced even more, contributing to a 2.2-million-ton rise in projected global ending stocks. Projected ***U.S.*** corn exports are left unchanged this month.

Domestic Outlook

Angelica Williams
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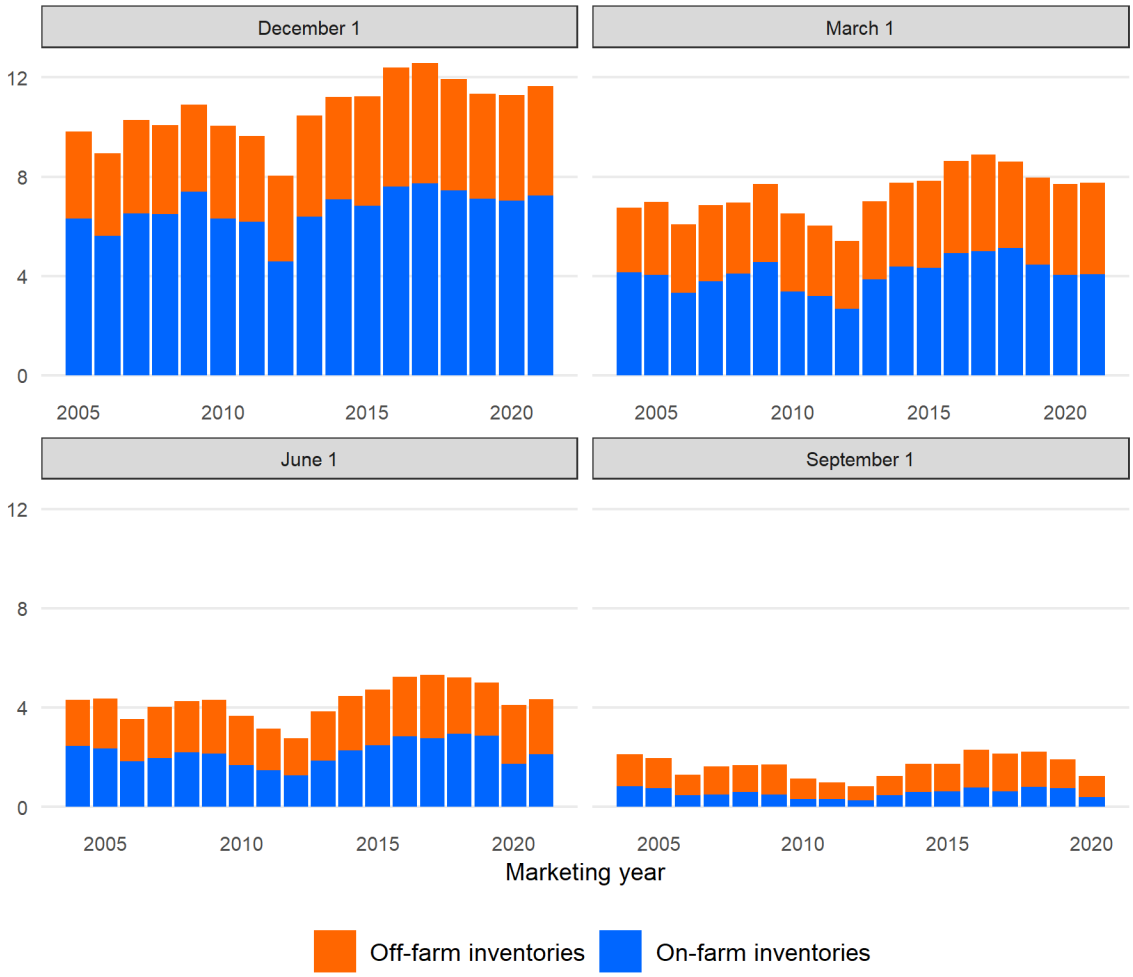
Corn Inventories in Third Quarter Push Ending Stocks Higher

Total corn consumption for the third quarter of the 2021/22 marketing year is estimated at 3,410 million bushels, leaving 4,346 million bushels of corn stored at all positions, according to the National Agricultural Statistics Service's (NASS) June 30 Grain Stocks report. Corn stocks in all positions are up 6 percent, the on-farm component of corn stocks is up 22 percent, and commercially held stocks are down 6 percent from the same period in the 2020/21 marketing year. Due the pace of use shown in the third quarter, corn use for marketing year 2021/22 is down 25 million bushels, on projected lower feed and residual use. U.S. corn exports for 2021/22 are estimated at 2,450 million bushels—unchanged from the June estimate. Despite early July sales cancellations and weakness in export inspections, the export pace through this point in the marketing year supports the current forecast. The lower corn use has led to 2021/22 ending stocks estimated to be 25 million bushels higher at 1,510 million bushels.

Figure 1

U.S. corn inventories, quarterly, on-farm versus off-farm

Billion bushels



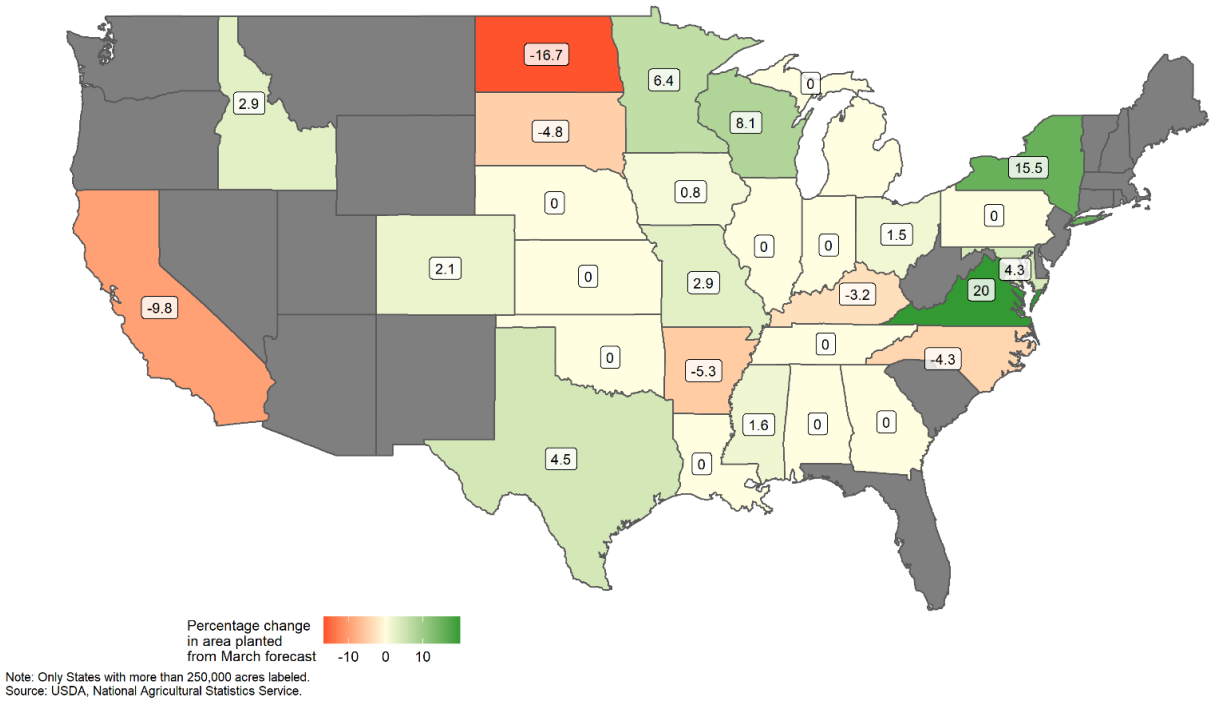
Source: USDA, National Agricultural Statistics Service.

Higher Corn Production Outlook for 2022/23

The NASS June 30 *Acreage* report projects 2022/23 marketing year planted area for corn to be 431,000 acres higher and harvested area to rise 240,000 acres from the estimates reported in the June *World Agricultural Supply and Demand Estimate (WASDE)* report. Minnesota saw the largest increase in area planted (relative to the Prospective Plantings report released in March), with an additional 500,000 acres planted, followed by Wisconsin with 300,000 additional acres. North Dakota saw the largest decrease in area planted (relative to March intentions), with 600,000 fewer acres planted, while South Dakota saw a 300,000 acres reduction. Yields remained unchanged from the June *WASDE* report, leaving production 45 million bushels higher at 14,505 million bushels for the 2022/23 marketing year. Total corn supplies for 2022/23

are 70 million bushels higher than last month, on higher production and a 25 million bushel increase in carryover from the 2021/22 marketing year.

Figure 2
U.S. corn planted area, percent change from the March Prospective Plantings to June Acreage report by State



Note: Only States with more than 250,000 acres labeled.
Source: USDA, National Agricultural Statistics Service.

Feed and residual use for 2022/23 is unchanged from last month but 275 million bushels lower than the 2021/22 marketing year at 5,350 million bushels. Food seed and industrial use for 2022/23 is also projected to remain unchanged from the June estimate of 6,820 million bushels. Export demand for 2022/23 is projected at 2,400 million bushels, also unchanged from the previous month and 50 million bushels lower than a year ago. The higher projected supplies for 2022/23 are expected to carry over to higher ending stocks of 1,470 million bushels, up 70 million from last month's estimate. The season-average farm price for corn in marketing year 2022/23 is projected at $6.65 per bushel—a $0.10 reduction from the previous month.

Lower Sorghum Production Outlook for 2022/23

According to the June 30 NASS *Acreage* report, growers planted 6.3 million acres of sorghum, up slightly from the March *Perspective Plantings* report estimate of 6.2 million acres. The Acreage report also forecasts 5.4 million acres of sorghum to be harvested in 2022/23; a 125 thousand acre decrease from the June *WASDE* number. Sorghum yields are projected to remain unchanged at 69 bushels per acre. Lower harvested area and unchanged yields leave this month's sorghum production estimate for 2022/23 projected at 372 million bushels, 9 million bushels lower than the previous month.

June 1 Inventories Indicate Lower Sorghum Use for 2021/22

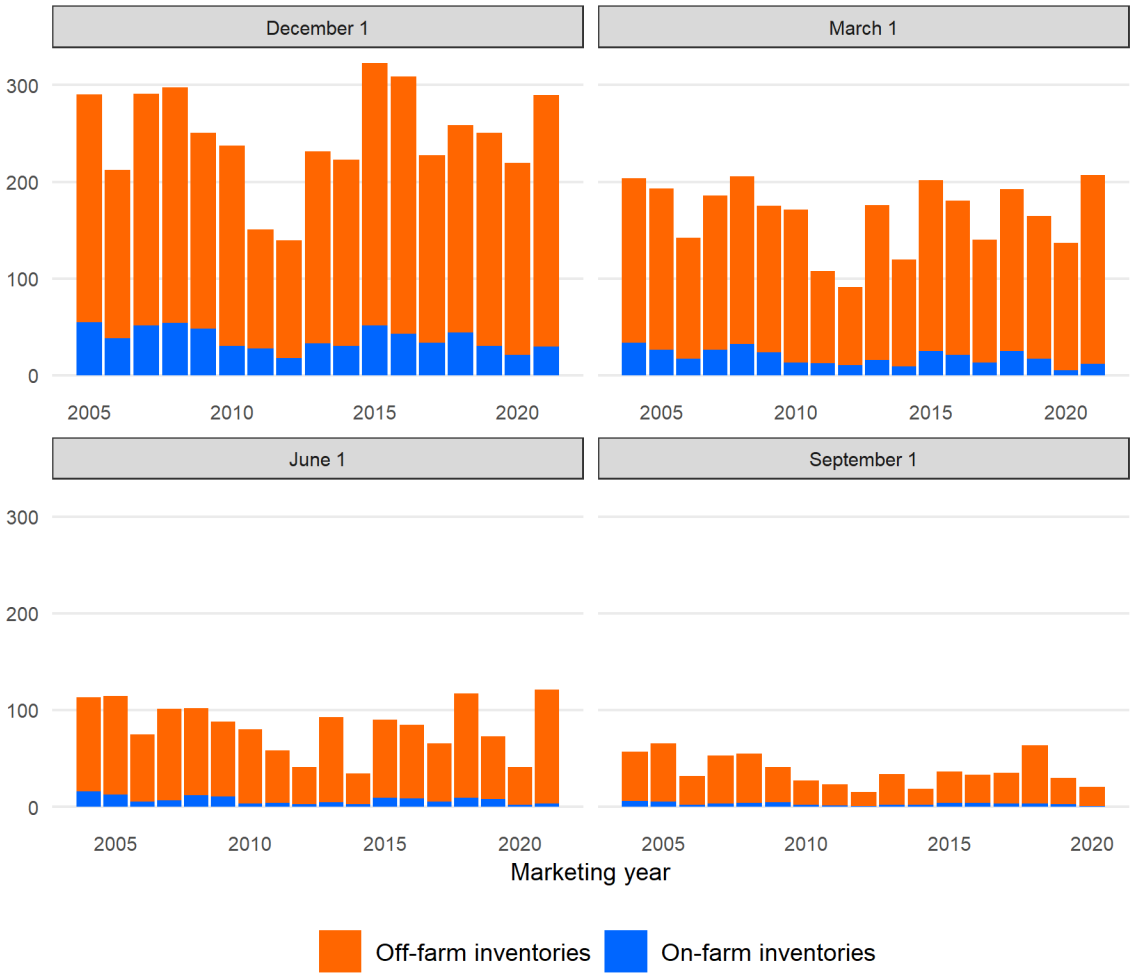
June 1 sorghum stocks reported by NASS's *Grain Stocks* report are sustained at higher levels through the current marketing year, indicating lower total use for the first 3 quarters of 2021/22. U.S sorghum feed and residual use for 2021/22 is lowered 25 million bushels to 100 million.

The most recent NASS *Grain Stocks* report estimates June 1 sorghum inventories at nearly 120 million bushels for the current year, up from 41 million bushels last year. The increase of sorghum inventories between March 1 and June 1 indicates reduced domestic use, combined with a reduced export pace witnessed thus far in the marketing year. The total domestic use estimate for 2021/22 is lowered 20 million bushels to 125 million. The reduction is due to lower feed and residual, now forecast at 100 million bushels. Food, seed, and industrial use for sorghum increased to 25 million bushels—up 5 million bushels—on expected stronger ethanol use during the fourth quarter.

Figure 3

U.S. sorghum inventories, quarterly, on-farm versus off-farm

Million bushels



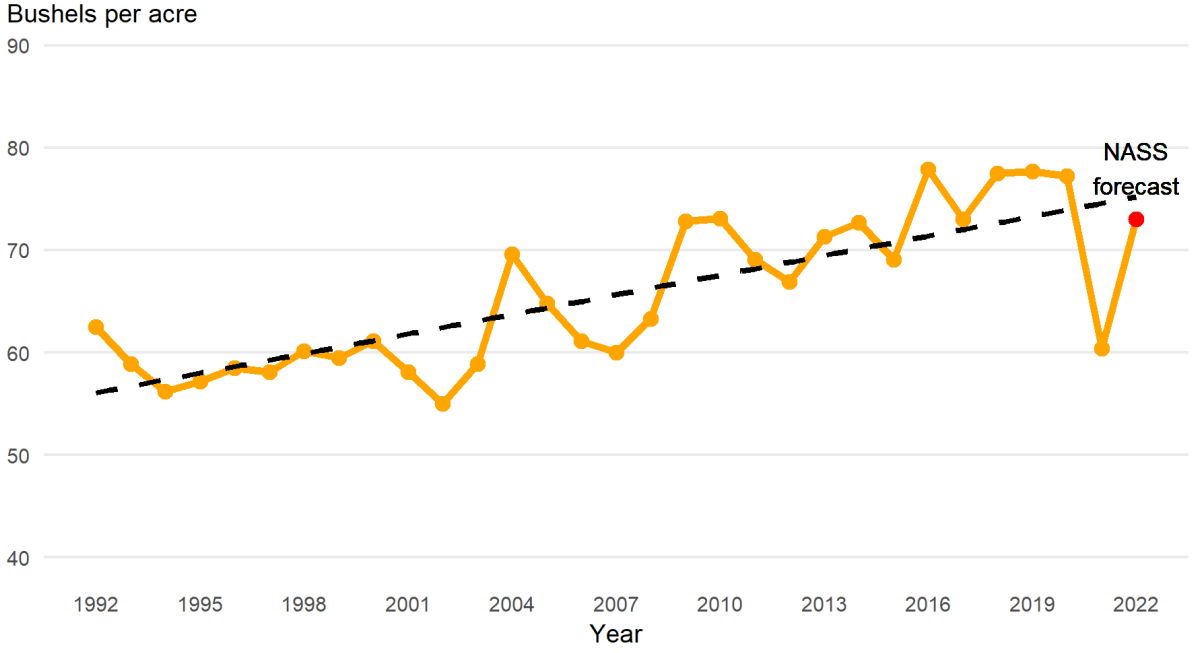
Source: USDA, National Agricultural Statistics Service.

Barley Supply Is Down on Lower Stocks

The initial survey-based forecast for 2022/23 barley production is 175 million bushels, up 57 million bushels from the 2021 crop and down 6 million from the previous forecast. Planted acreage came in slightly higher from March intentions at 3.046 million acres, but harvested acreage fell slightly to 2.395 million acres in the June *Acreage* report. National yield is projected at 73 bushels per acre, down 2.5 bushels from last month's trend forecast of 75.5 bushels per acre.

Figure 4

Barley yields, United States, 1992 to 2022 July forecast



Note: National Agricultural Statistics Service (NASS).
Source: USDA, National Agricultural Statistics Service.

Despite the small change in production, total barley supply for 2022/23 fell 24 million bushels, due to June 1 stocks coming in at 42 million bushels to round out the marketing year for barley. Old crop carryout at this level is the lowest on record. Total barley use in 2021/22 totaled 161 million bushels on stronger feed and residual use, imputed from June 1 stocks.

Total barley use for 2022/23 is projected at 167 million bushels, unchanged from last month. An expectation of food, seed, and industrial demand returning to levels seen before last marketing year at 145 million bushels provides the basis for demand growth—while feed and residual use falls to 15 million bushels. Prices received by farmers for barely in 2022/23 is forecast at $7.25 per bushel, down 10 cents from last month and up from the $5.31 price in 2021/22. The price drop from last month reflects lower feed barley prices, with an expectation of the spread between malting barley and feed barley recovering to typical levels from last year's lack of spread.

Oat Ending Stocks Stable

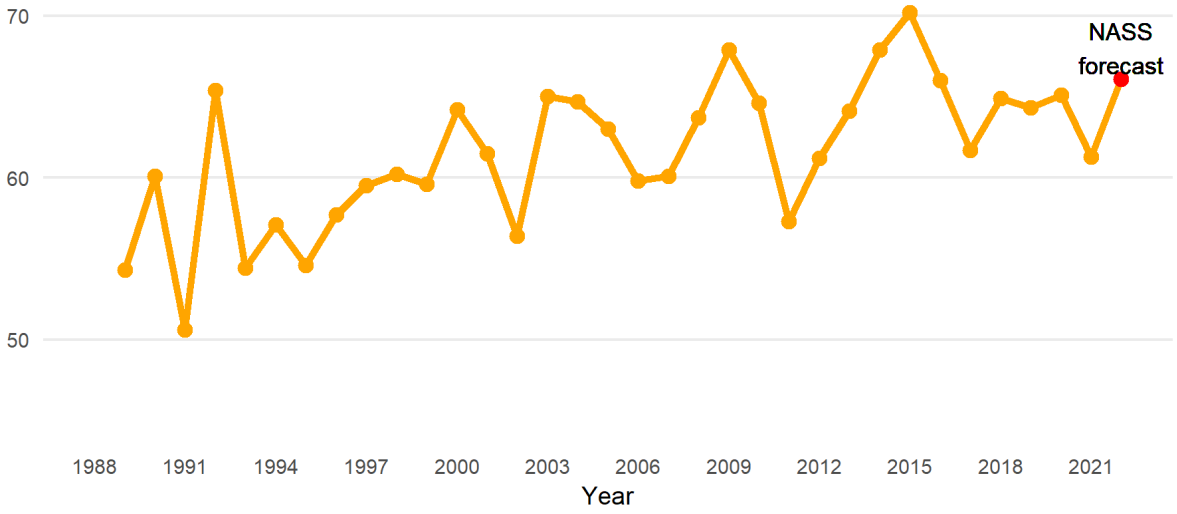
Oat production is forecast at 53 million bushels in 2022, according to NASS's first survey-based production forecast, down 6 million bushels from the initial projection and up 13 million bushels from 2021. The production change derives primarily from the yield forecast of 66.1 bushels per

acre, up 0.2 bushels from last month's trend yield. As of July 10, 58 percent of the crop was rated good or excellent (up 23 percent from last year), which gave a final yield of 61.3 bushels per acre. The June Acreage report placed planted acres at 2.4 million acres, down slightly from March intentions. Harvested acreage is forecast at 796,000 acres—down 104,000 acres from intentions.

Figure 5

Oat yields, United States, 1988 to 2022 projection

Bushels per acre



Note: National Agricultural Statistics Service (NASS).
Source: USDA, National Agricultural Statistics Service.

NASS estimated ending stocks for 2021/22 at 33 million bushels in the June Grain Stocks report, up 5 million bushels from the previous month's *WASDE* report. Feed and residual for 2021/22 is estimated at 44 million bushels, the same as the previous month's estimate. For 2022/23, the feed and residual use projection is 65 million bushels on stronger production levels over last year. The season-average farm price for 2021/22 is $4.55 per bushel, as reported by NASS through the end of the marketing year. Ending stocks for the upcoming crop year are forecast at 32 million bushels, down 2 million bushels on changes in production and feed use. The season average farm price remains at $5.70 per bushel for 2022/23.

Grain Consuming Animal Units Projected Lower for 2022/23

Grain Consuming Animal Units (GCAUs) are projected to be 98.8 million units in 2022/23, down from 99.9 in 2021/22. As a result, broad measures of the feed market show relatively improved

feed availability, on a per animal unit basis for 2022/23. Total feed and residual use for feed grains and wheat in the United States for 2022/23 (September through August) is projected to be 141.3 million metric tons. This total is a sharp decline from the 2021/22 estimate of 148.9 million metric tons.

International Outlook

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World Coarse Grain Production Prospects Are Slightly Lower

Foreign coarse grain production for 2022/23 is projected lower this month—down 2.7 million tons—with reductions for corn and barley output in Canada, the European Union, Russia, and a partly offsetting projected increase for Paraguay. However, a modest rise in coarse grain production of 0.7 million tons for the United States (higher corn—though lower barley, sorghum, oats, and rye output) is partly offsetting, with global coarse grain output projected down 2.0 million tons at 1,477.2 million. For more information about this month's changes, see tables A1 and A2 below.

Table A1 - World and U.S. coarse grain production at a glance (2022/23), July 2022

	Region or country	Production	Change from previous month[1]	YoY change[2]	Comments
		Million tons			
Coarse grain production (total)					
↓	**World**	**1,477.2**	**-2.0**	**-26.4**	
↓	**Foreign**	**1094.4**	**-2.7**	**-10.5**	Changes are projected for a number of countries and commodities. See table A2 and report text.
↑	**United States**	**382.8**	**+0.7**	**-15.9**	Higher projected area. See section on U.S. domestic output.
World production of coarse grains by type of grain					
CORN					
↑	**World**	**1,185.9**	**+0.1**	**-32.0**	
↓	**Foreign**	**817.5**	**-1.1**	**-16.5**	Lower corn output projected for Russia, the European Union, and Kenya is partly offset by an increase in Paraguay. See table A2.
↑	**United States**	**368.4**	**+1.1**	**-15.5**	See section on U.S. domestic output.
BARLEY					
↓	**World**	**145.5**	**-1.7**	**+0.4**	
↓	**Foreign**	**141.7**	**-1.6**	**-0.8**	Lower barley production in Canada and the European Union. See table A2.
↓	**United States**	**3.8**	**-0.1**	**+1.2**	See section on U.S. domestic output.
SORGHUM					
↓	**World**	**62.4**	**-0.2**	**+0.1**	
	Foreign	**53.0**	No change	**+2.0**	
↓	**United States**	**9.5**	**-0.2**	**-1.9**	See section on U.S. domestic output.
OATS					
↓	**World**	**24.9**	**-0.1**	**+2.3**	
	Foreign	**24.1**	No change	**+2.1**	
↓	**United States**	**0.8**	**-0.1**	**+0.2**	See section on U.S. domestic output.

Totals may not add due to rounding. [1]Change from previous month. [2]YoY: year-over-year changes.
Fractional changes are made for rye production in the United States and Canada and for mixed grain in Argentina.
For changes and notes by country, see table A2.
Source: USDA, Foreign Agricultural Service, *Production, Supply and Distribution* online database.

While the changes in global, foreign, and U.S coarse grain production by type of grain are shown in table A1 above, the changes for 2022/23 and 2021/22 by country are given in table A2 below.

For the 2021/22 crop year (see the bottom part of table A2), global coarse grain production is projected higher, with a sizeable increase for corn production in Paraguay. For Paraguay, the 2021/22 local marketing year for corn starts in June 2022 and overlaps 2 crop years for Northern Hemisphere countries: the last 4 months of the 2021/22 crop year and the first 8 months of the 2022/23 crop year.

Table A2 - Coarse grain production by country and type of grain at a glance, July 2022

	Type of crop	Crop year	Production	Change in forecast[1]	YoY[2] change	Comments
			Million tons			
2022/23 crop year						
CANADA						
↓	**Barley**	*Aug-July*	**9.7**	**-0.8**	**+2.8**	Barley area is projected lower in line with the recently published June Statistics Canada report, with production still almost 40 percent above last year's crop.
EUROPEAN UNION						
↓	**Barley**	*Jul-Jun*	**50.9**	**-0.8**	**-1.1**	Heat and dryness in June in the central and southern parts of the European Union moved to the eastern part of the region at the end of the June-beginning of July, and are expected to reduce barley yields across a number of countries. Similar changes are made for wheat and rapeseed.
↓	**Corn**	*Oct-Sep*	**68.0**	**-0.3**	**-2.5**	Corn yield for Italy is reduced this month. Italy is going through its worst drought in decades. The major corn-growing area of the Po River valley in the northern part of Itlay is being hit the hardest. Persisting heat accelerated crop development making corn more vulnerable to high tempertaures.
RUSSIA						
↓	**Corn**	*Oct-Sep*	**14.5**	**-1.0**	**-0.7**	Final corn planting reports suggest lower-than-expected area.
PARAGUAY						
↑	**Corn**	*Jun-May*	**4.5**	**+0.4**	**-0.5**	Corn area is projected higher this month, taking into account a change in projection for the previous year – the second-crop corn area expansion in 2021/22 (see below). Corn planting for 2022/23 in Paraguay is not going to start for several more months.
KENYA						
↓	**Corn**	*Jul-Jun*	**3.0**	**-0.2**	**-0.1**	Corn yield reduction reflects drought conditions in June in the major corn areas of the country.
2021/22 crop year						
PARAGUAY						
↑	**Corn**	*Jun-May*	**5.0**	**+1.7**	**+1.8**	Corn area is projected more than 20 percent higher this month based on reports of the expansion of the second-crop corn planting. This crop also appears to have higher yield than the first crop corn, thereby boosting total corn yields.
MEXICO						
↓	**Corn**	*Oct-Sep*	**27.6**	**-0.1**	**+0.2**	Corn area is projected slightly lower based on statistical information from the Mexican Government.
↑	**Barley**	*Jul-Jun*	**1.0**	**+0.1**	**+0.1**	Based on statistical information from Mexican Government.

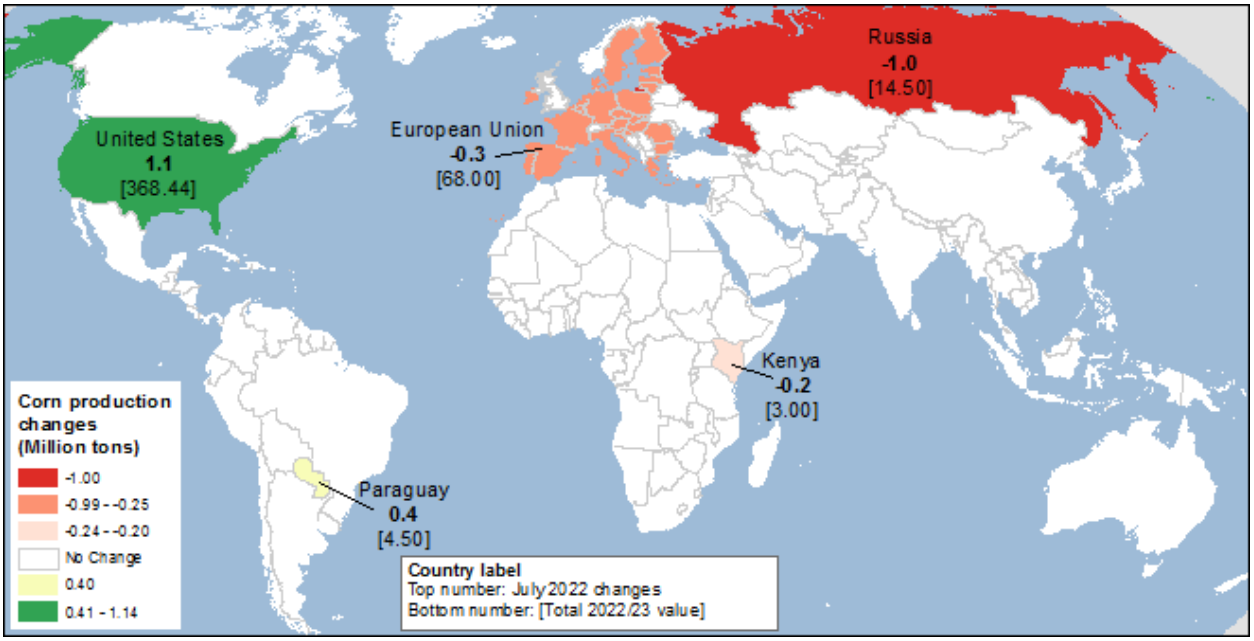
[1]Change from previous month. Smaller changes are also made for several countries, see map A for corn production changes.

[2]YoY: year over year changes.

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

See a visual display of this month's changes in corn exports and imports in map A below.

Map A – Corn production changes for 2022/23, July 2022



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

Lower Consumption and Higher Stocks Projected This Month

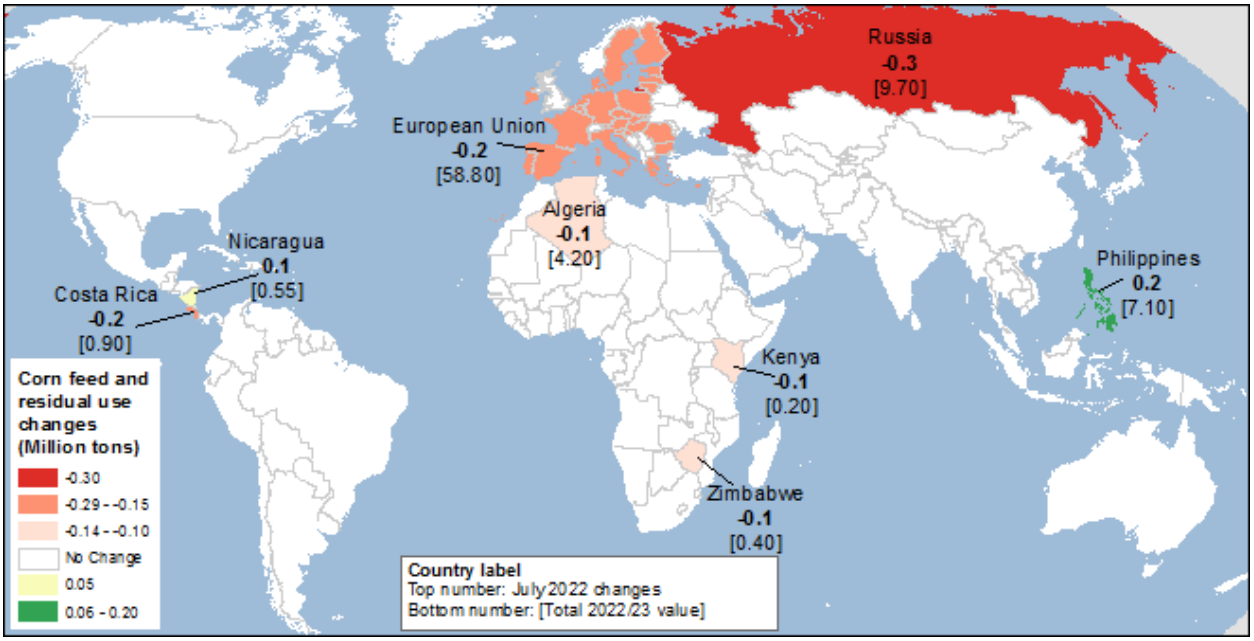
Global coarse grain use in 2022/23 is reduced 2.2 million tons to 1,477.7 million this month. With lower supplies and record-high prices, the global domestic use is down 10.5 million tons year over year. This month, the lower projected corn and barley output is expected to limit domestic use in ***Canada***, the ***European Union***, ***Russia***, and ***Kenya***. The changes in projected imports are expected to trim down barley feed use in ***China*** and ***Saudi Arabia*** and corn consumption in ***Algeria***, while boosting corn use in the ***Philippines*** (feed and residual use) and ***Zimbabwe*** (food, seed, and industrial use). Several smaller partly offsetting changes in domestic use of coarse grain are also made this month for a number of countries.

See a visual display of this month's country changes in corn feed and residual use in map B below.

The reduction in global coarse grain production is less than the decrease in use, resulting in an increase in projected global ending stocks. World 2022/23 coarse grain ending stocks are forecast 2.2 million tons higher than the June projection, to reach 337.9 million. Individual countries' changes in stocks follow production and trade revisions, the largest being for the ***United States*** (up 1.4 million tons with higher corn and sorghum, but lower barley and oats

stocks, see domestic section of the report) and ***Paraguayan*** corn (up 0.7 million tons). All other projected changes in stocks are much lower.

Map B – Corn feed and residual use changes for 2022/23, July 2022



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

World Coarse Grain Trade Is Slightly Reduced This Month

The July forecast for world coarse grain exports in the October-September international trade year 2022/23 is slightly lower than the June forecast by 0.6 million tons. Global **barley** exports are reduced, while **corn** trade is projected slightly higher.

Corn trade-year exports are projected higher by 0.2 million tons—with just two partly offsetting changes for ***Paraguay***, up 0.7 million tons, and for the ***European Union***, down 0.5 million tons—both in line with production changes (see table A2). Corn trade-year imports for 2022/23 are adjusted up for the ***Philippines*** (reflecting the temporary reduction through the end of 2022 in corn tariffs that is expected to partly shift its feed grain imports from wheat to corn) and down for ***Costa Ric***a—a rollover change from 2021/22.

Barley trade-year exports for 2022/23 are reduced 0.8 million tons this month—with reductions for Canada and the European Union—down 0.5 and 0.3 million tons, respectively—reflecting lower projected barley output in these two countries (see table A2). Canada is by far the major supplier of barley to China, while Saudi Arabia sources much of its barley from the European Union. Mirroring export reductions, barley imports are lowered for China and for Saudi Arabia.

Corn exports for the **2021/22** international trade year (that will end in September 2022) are projected 0.8 million tons higher and involve several partly offsetting changes.

Corn exports are projected 1.0 million tons higher for ***Ukraine*** this month to reach 24.0 million. The Russian blockade of the Ukrainian Black Sea ports undermined Ukrainian export prospects—allowing Ukraine to export grain via rail, trucks, and barges only. However, Ukraine is trying to make the best out of the current situation by expanding to some degree (according to the recent data and reports) the volume of exported grain that turned out to be higher than anticipated earlier in both May and June. With higher projected 2021/22 corn output, corn exports in ***Paraguay*** are projected 0.3 million tons higher. As mentioned above, the local marketing year 2021/22 for corn in Paraguay begins in June 2022 and ends in May 2023, overlapping 2 October-September crop years for Northern Hemisphere countries: the last 4 months of the 2021/22 crop year and the first 8 months of the 2022/23 crop year. A considerably higher 2021/22 corn production in Paraguay is expected to boost exports in both the 2021/22 and 2022/23 October-September trade years, with the largest part going to the latter. Based on the trade data, corn exports for ***Canada*** and the ***European Union*** are also projected higher this month, reaching the highest exports on record for both countries. Corn exports are also increased for ***Zambia,*** supported by its reported sales to ***Zimbabwe***.

The pace of ***Argentine*** corn exports is not sufficient to support the previous forecast for the 2021/22 October September international trade year, and the exports are projected 1.0 million tons lower this month, though still at a trade-year record high for corn exports of 41.5 million tons. The lower-than-expected pace of exports can be at least partly explained by the current political turmoil, soaring inflation, and overall instability that are disrupting the national economy and diminishing farmers' incentives to sell grain.

For a short overview of changes in specific countries' trade (as well as features on related topics), see "Grain: World Markets and Trade," published by USDA's Foreign Agricultural Service.

Suggested Citation

Williams, Angelica, Olga Liefert, Todd Hubbs, *Feed Outlook: July 2022*, FDS-22g, U.S. Department of Agriculture, Economic Research Service, July 14, 2022.