United States Department of Agriculture

Economic Research Service | Situation and Outlook Report

WHS-22d | April 12, 2022

Next release is May 16, 2022

Wheat Outlook: April 2022

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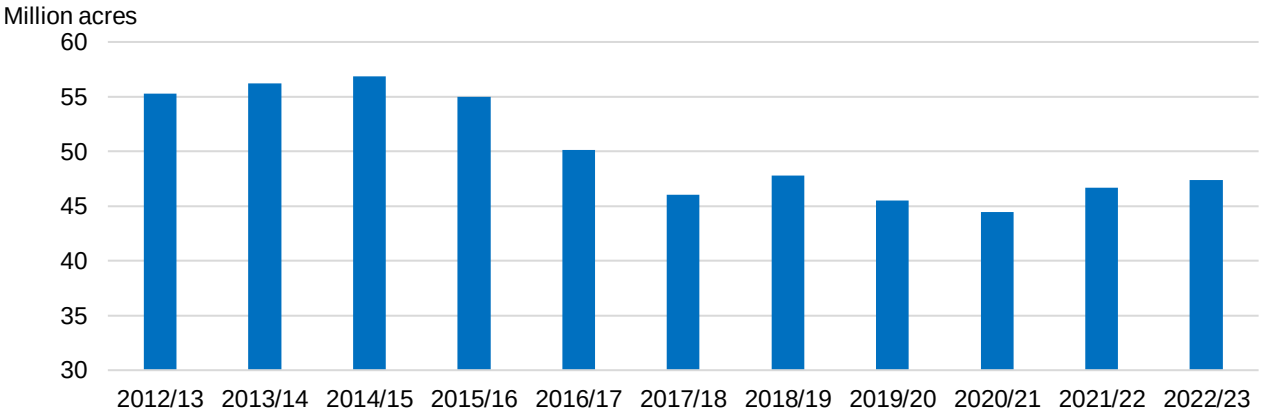
In this report:

U.S. Wheat Planted Area Projected up 1 Percent

USDA's National Agricultural Statistics Service (NASS) released its *Prospective Plantings* report on March 31, estimating U.S. 2022/23 wheat planted area up 1 percent from the previous year to 47.4 million acres. This represents a second straight year of rising U.S. wheat area after the record low was set in 2020/21 (records extend back to 1919). Total winter wheat area is projected up 2 percent from last year with strong prices during the fall providing stronger incentive for planting. Hard Red Winter area is estimated up 1 percent from the previous year while Soft Red Winter area is up 4 percent. Total White wheat area (winter and spring) is projected at 4.3 million acres, up marginally from last year. Hard Red Spring (HRS) area planted is projected down 1 percent from the previous year to 10.5 million acres. HRS prices have been strong, but prices for many competing crops are also elevated and those crops are currently more profitable to produce. Durum seedings are estimated at 1.9 million acres, up about 17 percent driven by very high prices and strong expected profitability.

Figure 1

U.S. all-wheat planted area by marketing year, 2012/13 – 2022/23



Source: USDA, National Agricultural Statistics Service.

Domestic Outlook

Domestic Changes at a Glance:

- The 2021/22 all-wheat export forecast is reduced 15 million bushels to 785 million on a continued weak pace of export sales and shipments to date, combined with uncompetitive pricing for U.S. wheat.
- Official exports for June 2021 through February 2022 total 622 million bushels, down 14 percent from the same period last year, based on calculations from U.S. Bureau of the Census data. This 9-month total represents 79 percent of the revised marketing year (June-May) projection. Export sales (both new sales and shipments) have remained slow throughout March, as reported by USDA's Foreign Agricultural Service (FAS) in the *U.S. Export Sales* report.
- Projected exports for Hard Red Winter (HRW) are lowered 10 million bushels to 310 million. Global prices remain elevated with continued support stemming from the conflict between Russia and Ukraine. U.S. wheat prices have remained at a steep premium to other key origins, with additional support from continued drought conditions in major HRW producing States (details in later section).
- Soft Red Winter (SRW) exports are lowered 5 million bushels to 110 million with pricing reflective of conditions in the global wheat market and spillover support from drought conditions in HRW-producing regions.
- All-wheat seed use is unchanged at 64 million bushels for 2021/22, but there are some revisions to the by-class data. HRW seed use is raised 0.2 million bushels to 26.7 million; White seed use is up 0.3 million bushels to 5.8 million; HRS seed use is lowered 0.5 million bushels to 15.0 million. These changes are made based on updated seed use statistics from USDA/NASS as well as analysis of the *Prospective Plantings* data.
- Feed and residual use is lowered by 10 million bushels to 100 million based on smaller-than-expected implied disappearance during the December-February quarter, based on the March 31 USDA/National Agricultural Statistics Service (NASS) *Grain Stocks* report. SRW feed and residual is reduced 10 million bushels to 65 million.
- The 2021/22 season-average farm price is raised $0.10 per bushel to $7.60 based on the strong farmgate prices through February as reported in the March 31 USDA/NASS publication *Agricultural Prices*. The February 2022 all-wheat farmgate price was estimated at $9.17, up from $8.48 in January 2022 and well above the $5.83 for February 2021. Futures

prices have subsided slightly from the highs reached in early March, but still reflect a substantial premium based on risks imposed by the Russia-Ukraine conflict. These recent price movements are dampened as a significant majority of wheat marketings have been completed this marketing year (MY). On average in the last five years, about 87.9 percent of wheat is marketed in the first 9 months of the MY.

- The major changes to the U.S. all-wheat balance sheet are summarized in table 1.

Table 1

U.S. wheat supply and use at a glance 2021/22 (in million bushels)

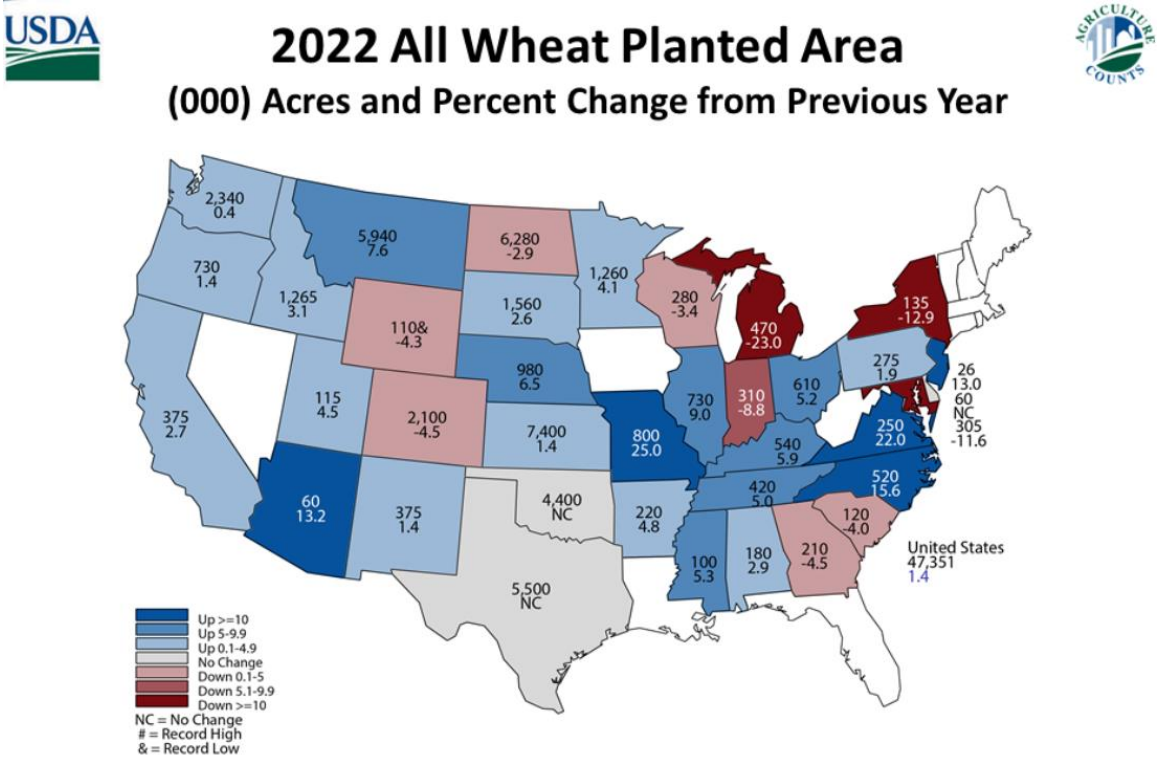
Balance sheet item	2020/21 April	2021/22 March	2021/22 April	2021/22 Change month to month	Comments
Supply, total					**June-May marketing year**
Beginning stocks	1,028	845	845		
Production	1,828	1,646	1,646		
Imports	100	95	95		
Supply, total	2,957	2,586	2,586		
Demand					
Food	961	959	959		
Seed	64	64	64		
Feed and residual	95	110	100	-10	Lower-than-expected implied disappearance during the December-February quarter
Domestic, total	1,120	1,133	1,123	-10	
Exports	992	800	785	-15	Uncompetitive U.S. wheat prices, combined with slow pace of sales and shipments
Use, total	2,111	1,933	1,908	-25	
Ending stocks	845	653	678	+25	Ending stocks still lowest since 2013/14
Season-average farm price	$5.05	$7.50	$7.60	+$0.10	USDA, National Agricultural Statistics Service price data through February and expectations for continued strong futures and cash prices in the coming months

Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

USDA Reports on Plantings and Stocks

As discussed in the cover piece, USDA/NASS issued its *Prospective Plantings* report, which provided the agency's first official estimates of all-wheat acreage for the upcoming year. Total wheat area is projected at 47.4 million acres, up 1 percent from the previous year, but down from USDA's February Agricultural Outlook Forum (AOF) estimate of 48.0 million acres. Winter wheat area is estimated at 34.2 million acres, up 2 percent from last year, but slightly below the 34.4 forecast in the January USDA/NASS *Winter Wheat and Canola Seedings* report. Relative to the January report, expected plantings are lower for SRW and HRW, while White winter area is projected fractionally higher. Durum and Other Spring wheat area collectively is projected lower than what was implied by the AOF figures. Durum area is up year-to-year, while Other Spring is down. In North Dakota specifically, several alternative crops have strong profitability relative to spring wheat. U.S. all-wheat planted area is up from the previous year in most States (figure 2). The first official USDA projection of U.S. winter wheat production for 2022/23 will be published in the May NASS *Agricultural Production* report, issued on May 12. The May *World Agricultural Supply and Demand Estimates* (*WASDE*) report issued the same day will provide USDA's first official all-wheat production forecast for the 2022/23 marketing year.

Figure 2
U.S. all wheat planted area, by State, 2022



Source: USDA, National Agricultural Statistics Service.

USDA/NASS also released the *Grain Stocks* report on March 31, which detailed the on-farm and off-farm stock levels for wheat and durum across major production States. As of March 1, 2022 (the end of quarter 3, 2021/22), U.S. all-wheat stocks are estimated at 1,025 million bushels and Durum stocks are estimated at 30 million bushels. The all-wheat stock estimate is above USDA's previous internal estimates, resulting in larger implied feed and residual for that quarter. December 1 all-wheat stocks were revised 12 million bushels lower to 1,378 million bushels with December 1 Durum stocks revised down 1 million bushels to 42 million. The net effect of these changes was larger implied feed residual for the second quarter (September-November), which was more than offset by smaller implied feed and residual for the third quarter (December-February).

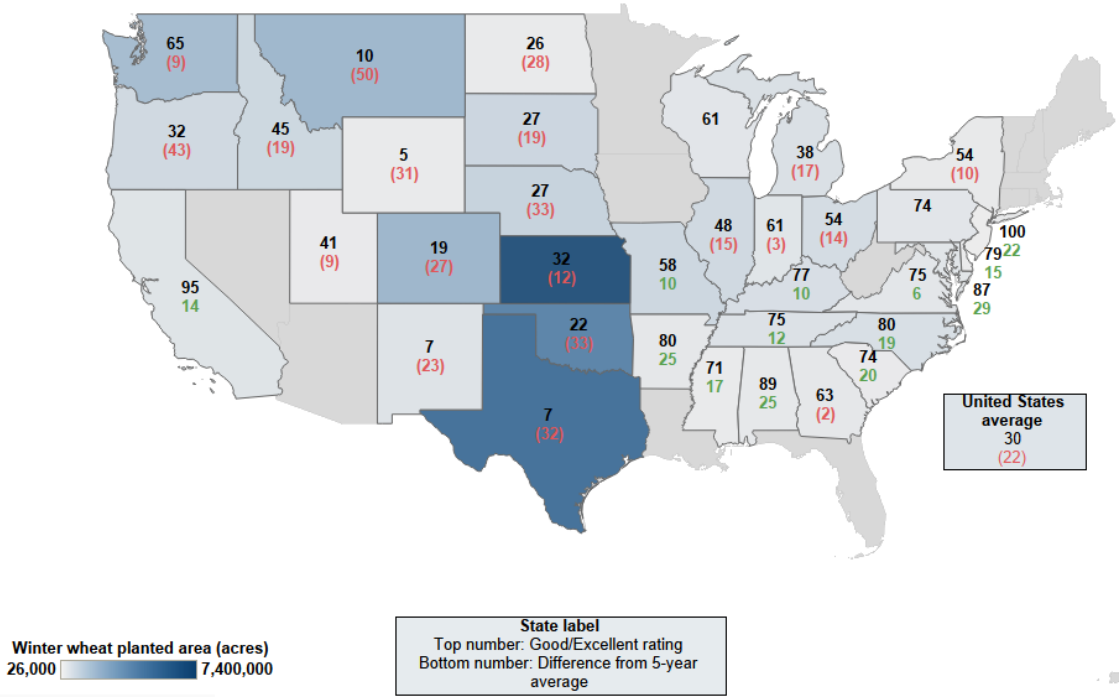
U.S. Crop Conditions Update

According to USDA analysis and data from the U.S. Drought Monitor, approximately 69 percent of U.S. winter wheat production is in areas experiencing drought as of April 5, down slightly from what was reported last month in the *Wheat Outlook* publication, but up substantially from 27 percent at this time last year. Much of the current drought area covers key HRW growing regions of western Kansas, Colorado, Oklahoma, and Texas.

The effect of dry conditions during winter wheat dormancy is evident in the USDA/NASS crop condition ratings. Throughout the winter months, crop ratings were published for select key states on a periodic basis. Starting from April 4, winter wheat crop condition ratings will be updated weekly in the USDA/NASS *Crop Progress* publication throughout the growing season. The April 4 publication shows that conditions in key winter wheat States are substantially below the recent 5-year average (figure 3).

In Kansas, the largest winter wheat producing State, only 32 percent of the crop is in good and excellent condition, down from a 5-year average of 44 percent. Even more substantial declines are seen in conditions for Texas, Oklahoma, Colorado, and Montana, the main HRW producing states. Winter wheat conditions for SRW producing States are mixed with most of the States in the Southeast faring better than average and several States farther north having worse than normal ratings.

Figure 3
Percent of winter wheat rated good/excellent as of April 3, 2022



Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

Drought is also substantially affecting Durum production areas. As of April 5, approximately 86 percent of U.S. Durum production is in areas of drought. This is down slightly from last year when 90 percent of Durum production was located in drought at this point in the year. Notably, in early August last year, 100 percent of Durum production was in areas of drought. The bulk of Durum production is planted in the spring in the Northern Plains, while winter Durum planted in California and Arizona represents a smaller share of the total.

Conversely, Other Spring wheat drought conditions have improved notably from last year, largely due to wetter conditions in eastern North Dakota and Minnesota. Approximately 46 percent of Other Spring wheat production is in areas of drought, well below the 80 percent estimated at this time last year. The vast majority of the Other Spring wheat category is HRS, which had diminished production last year due to drought. With increased moisture in Minnesota and the eastern portion of North Dakota, this year's HRS crop will likely be planted into conditions substantially different than last year.

Updated U.S. Import Codes

The Harmonized System (HS) country-specific (10-digit) import codes for U.S. wheat have been updated as of the January 2022 data. These codes are now reflected in the USDA, Economic Research Service (ERS) "Wheat Data" product. Most of the new codes replace previous codes that were phased out to accommodate creation of two new codes for organic imports. Previously, the only code for organic wheat imports pertained to Durum. Now, there is a code for organic HRS imports and another code for organic wheat imports that are not Durum or HRS. See table 2 for the updated codes.

Table 2
U.S. Harmonized System (HS) import code changes as of January 2022

Previous code	New code	New code description
N/A	1001990007	Red spring wheat, certified organic
1001990011	1001990010	Red spring wheat, grade 1, having a specified protein content not exceeding 12.9 percent by weight, except seed NESOI 1/
1001990015	1001990017	Red spring wheat, grade 1, having a specified protein content exceeding 12.9 percent, but not exceeding 13.9 percent by weight, except seed, NESOI 1/
1001990020	1001990018	Red spring wheat, grade 1, having a specified protein content exceeding 13.9 percent by weight, except seed, NESOI 1/
1001990021	1001990027	Red spring wheat, grade 2, having specified protein content not exceeding 12.9 percent by weight, except seed, NESOI 1/
1001990025	1001990030	Red spring wheat, grade 2, having a specified protein content exceeding 12.9 percent but not exceeding 13.9 percent by weight, except seed, NESOI 1/
1001990028	1001990033	Red spring wheat, grade 2, having a specified protein content exceeding 13.9 percent by weight, except seed, NESOI 1/
1001990035	1001990036	Red spring wheat, except seed, NESOI 1/
N/A	1001990009	Wheat or meslin, certified organic, except seed, NESOI 2/
1001990040	1001990045	White winter wheat, except seed, NESOI 1/
1001990050	1001990055	"Canadian" western red winter wheat, except seed, NESOI 1/
1001990060	1001990065	Soft white spring wheat, except seed, NESOI 1/
1001990096	1001990097	Wheat or meslin, except seed, NESOI 1/

N/A = not applicable because these codes are newly created.
1/ NESOI = not elsewhere specified or indicated. In this context, the acronym indicates imports that are not certified organic.
2/ NESOI = not elsewhere specified or indicated. In this context, the import code is for organic wheat, but the acronym indicates that the wheat is not Hard Red Spring or Durum.
Source: USDA, Economic Research Service; USDA, Foreign Agricultural Service.

International Outlook

Overview of the 2021/22 Global Wheat Market

For 2021/22, global wheat production is up 0.3 million metric tons (MT) to 778.8 million as production is revised up for **Argentina** (+0.5 million MT to 21.0 million) and **Pakistan** (+0.5 million to 27.5 million) and is partially offset with a reduction to the **European Union** (-0.6 million MT to 138.4 million). Total wheat consumption is forecast up (2.7 million MT to 788.1 million) mainly driven by increase for **India**'s food, seed, and industrial use (+4.4 million MT to 100.9 million). Despite additional consumption demand, both July/June trade year (TY) imports and TY exports are lowered as global wheat prices continue to remain elevated and trade pace is slower than anticipated. As a result, world ending stocks are lowered 3.1 million MT to 278.4 million with major exports' ending stocks seeing slight relief (+2.3 million to 58.4 million). Table 3 shows an overview of the global balance sheet for the 2021/22 trade year.

Table 3
Global trade year wheat balance sheet, April 2022 (in million tons)

Balance sheet item	2020/21 April	2021/22 March	2021/22 April	2021/22 Change month to month
Supply				
Beginning stocks	296.8	290.3	290.7	0.4
Production	776.3	778.5	778.8	0.3
Trade year imports	194.9	201.1	198.2	-3.0
Demand				
Feed and residual use	157.7	162.1	162.2	0.1
Food, seed, and industrial use	616.9	623.3	625.9	2.6
Domestic, total use	774.6	785.4	788.1	2.7
Trade year exports	198.7	204.8	201.7	-3.1
Ending stocks	290.7	281.5	278.4	-3.1

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

2021/22 Global Trade Adjustments

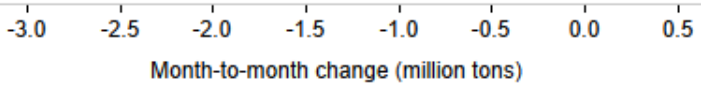
As the Russia-Ukraine conflict continues, wheat prices remain elevated resulting in lower imports for 2021/22 as countries find a balance between rationing demand and tightening their stocks. Imports for both **Egypt** and **Turkey** are forecast down 0.5 million MT to 12.0 million and 9.5 million, respectively. While Egypt's General Authority for Supply Commodities (GASC) recently announced a tender for an unspecified amount of wheat, it is not expected to be

delivered until end of May to beginning of June as their focus has shifted to their domestic procurement campaign. With restricted exports in Ukraine, Turkey is unable to procure additional imports from this source. While **Iraq** recently secured a tender from Germany, they are behind pace and have not received additional shipments from Australia as previously anticipated. These revisions are partially offset with higher imports for **Algeria** and **Morocco**. Algeria has resumed shipments from Argentina and has exhibited a strong pace of imports this year. New-crop drought concerns in Morocco have resulted in higher imports the past few months as they build up their stocks and secure supplies for the next marketing year. Figure 4 shows all the trade year import changes this month.

Figure 4

Month-to-month change in 2021/22 trade year wheat imports, April 2022

Country/region	Million tons	Month-to-month change (million tons)
Algeria	7.8	0.3
Azerbaijan	1.3	(0.1)
Brazil	6.5	(0.2)
Egypt	12.0	(0.5)
European Union	4.5	(0.3)
Iraq	2.6	(0.5)
Japan	5.4	(0.2)
Jordan	0.9	(0.2)
Korea, North	0.1	(0.1)
Korea, South	4.6	0.1
Morocco	5.2	0.2
Mozambique	0.7	(0.2)
Pakistan	1.9	(0.1)
Philippines	6.3	(0.2)
Turkey	9.5	(0.5)
World total	198.2	(3.0)



Note: Changes less than 100,000 metric tons are not included; month-to-month change is the difference between April 2022 and March 2022 estimates.
Source: USDA, Economic Research Service; USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

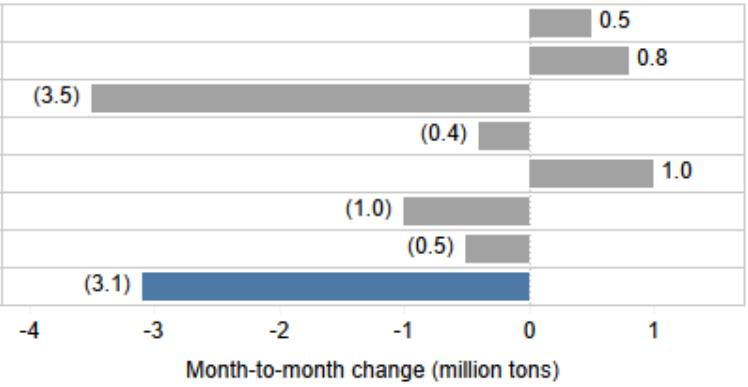
2021/22 global trade year (July/June) exports are revised down 3.1 million MT to 201.7 million as the **European Union** has seen significantly smaller shipments the last few months and **Ukrainian** exports remain restricted out of the Black Sea. The government of **Kazakhstan** announced that they will limit wheat exports over the next few months decreasing their exportable supplies. These downward revisions are partially offset by increases for **Russia** and **Brazil**. Despite financial sanctions and their export tax (recently announced as $101.40/MT

starting April 13), Russia has continued to export wheat and is on pace to reach 33.0 million MT. Brazil has had record exports in December, January, and February as their prices remain competitive for additional exports to the Middle East and Southeast Asia. For more information, see the April *Grain: World Markets and Trade* by the Foreign Agricultural Service. Figure 5 provides an overview of the trade year export changes from March.

Figure 5

Month-to-month change in 2021/22 trade year wheat exports, April 2022

Country/region	Million tons
Argentina	15.0
Brazil	2.5
European Union	34.0
Kazakhstan	7.0
Russia	33.0
Ukraine	19.0
United States	21.5
World total	201.7



Note: Changes less than 100,000 metric tons are not included; month-to-month change is the difference between April 2022 and March 2022 estimates.
Source: USDA, Economic Research Service; USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

2021/22 Global Wheat Consumption Up

Despite lower trade, global wheat consumption is forecasted up dominantly driven by larger food, seed, and industrial (FSI) use in **India** (+4.4 million MT to 100.9 million). An updated government stocks report shows higher FSI use as more stocks were being used in India's food distribution programs. Partially offsetting this increase is reduced FSI use in **Brazil** and **Egypt**.

Feed and residual use steady month-to-month on offsetting revisions. **Ukraine** is up 0.5 million MT to 4.0 million as part of their supplies are deemed unusable or are destroyed due to the ongoing conflict. The **EU** is also up 0.5 million MT to 46.0 million as this partially offsets reduced corn feeding as they are unable to source imports from Ukraine to satisfy their demand. Lower feed and residual use for **Turkey** (-0.5 million MT to 1.8 million) and **Brazil** (-0.3 million MT to 0.5 million MT) partially counteracts these revisions.

An adjustment is also made to total consumption based on the local marketing year (MY) trade adjustments for 2021/22. The unaccounted trade is revised up 1.1 million MT to 2.9 million MT

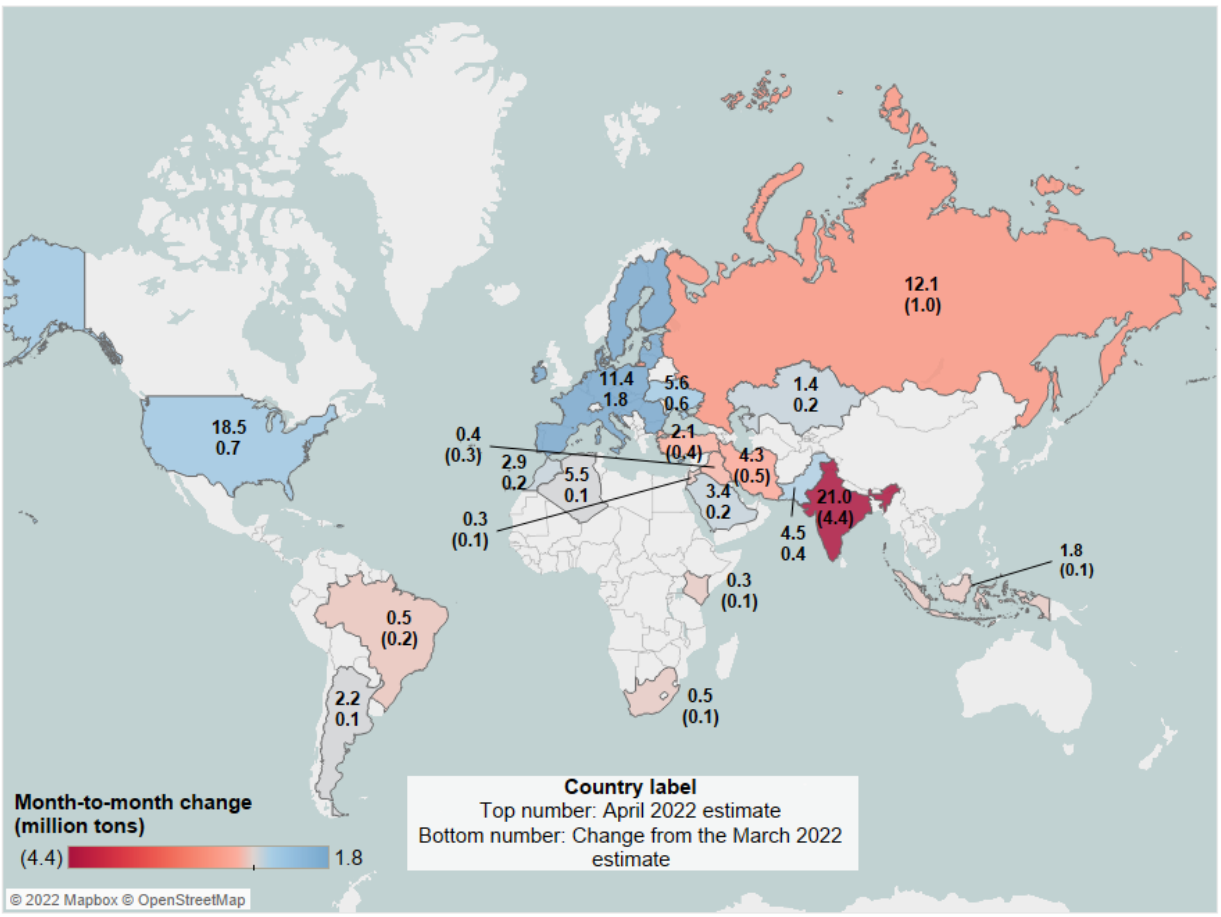
as MY imports are reduced more substantially than MY exports. By adding this updated calculation of unaccounted trade to total consumption (788.1 million MT), the total adjusted consumption in 2021/22 is projected at 791.1 million MT.

Global Ending Stocks Lowered 3.1 million MT

Global ending stocks are adjusted down 3.1 million MT to 278.4 million driven by cuts for **India** and not fully offset by an increase in major exporters' ending stocks. India's ending stocks are revised down 4.4 million MT to 21.0 million as their food distribution programs resulted in higher disappearance from government stocks. Major exporters' ending stocks are revised up 2.3 million MT to 58.4 million. Export cuts for the **European Union**, the **United States**, and **Ukraine** provides relief for major exporters' ending stocks. These are partially offset by a decrease for **Russia** as they continue to export. Figure 6 shows a map of the changes to ending stocks by country this month.

Figure 6

Month-to-month changes in 2021/22 wheat ending stocks, April 2022



Note: Changes less than 100,000 metric tons are not included.
Source: USDA, Economic Research Service; USDA, Foreign Agricultural Service, *Production, Supply, and Distribution* database.

Feature Article: U.S. Wheat Pricing and Exports in 2021/22

U.S. all-wheat exports in 2021/22 (June-May marketing year) are projected at 785 million bushels, the smallest since 2015/16 and the second lowest in 50 years. A variety of supply and demand factors led U.S. exports to this low-tide moment. Tight U.S. supplies, combined with bumper crops in some competitor countries, resulted in U.S. wheat being priced high on a freight-on-board (FOB) basis. Further, international ocean freight rates trended higher due to outsized grain import demand from China and delayed vessel loading times following the Coronavirus (COVID-19) pandemic. Together, higher FOB prices and freight rates led to higher landed prices for wheat from the United States compared to cheaper alternatives from other competitors (table 4). Additionally, competitors like Australia and Argentina are geographically closer than the United States to key import markets, exacerbating already-high ocean freight differentials. Many of these pricing relationships will be discussed at greater length throughout this article.

Table 4
U.S., Australian, and Argentinian wheat prices, June–March
U.S. dollars per metric ton

Route	*2020/21*			*2021/22*			
	FOB	*Freight*	*Landed*	*FOB*	*Freight*	*Landed*	*Landed percent change*
Hard wheat							
U.S. HRS to Indonesia	276	27	304	413	54	467	54
Australia APW to Indonesia	260	15	275	336	31	367	33
Mid-protein wheat							
U.S. HRW to Brazil	258	23	281	361	40	401	43
Argentina to Brazil	258	16	273	310	26	337	23
White wheat							
U.S.SW to Indonesia	256	27	284	423	54	478	68
Australia ASW to Indonesia	245	15	259	314	31	345	33
U.S. SW to China	256	23	280	423	40	463	66
Australia ASW to China	245	18	263	314	33	347	32

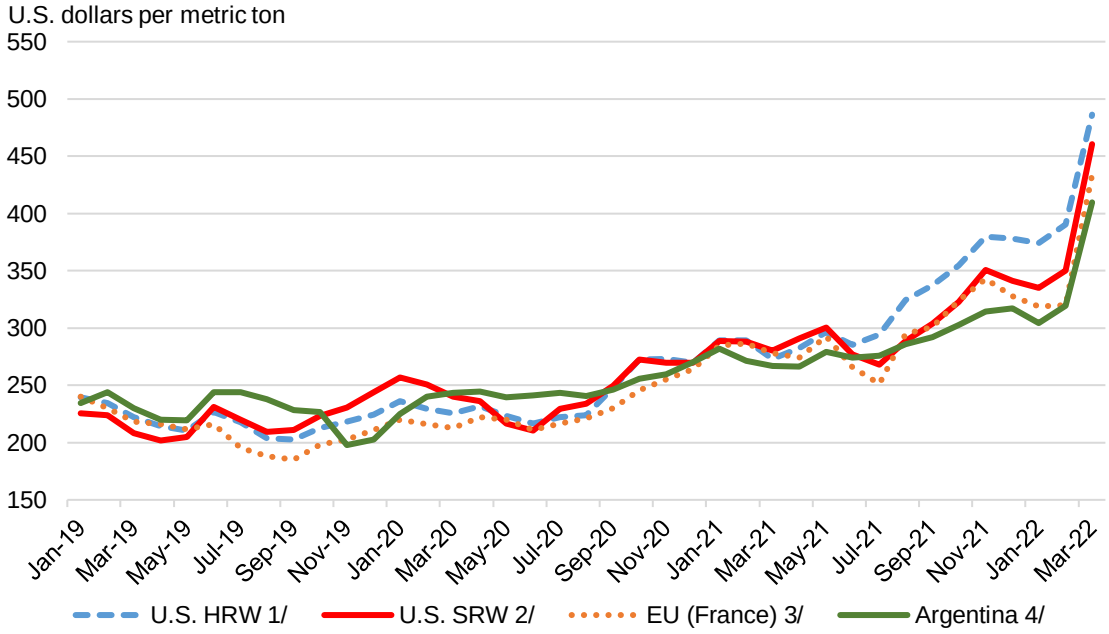
FOB = freight-on-board; Freight = bulk ocean freight cost; Landed = FOB plus freight excluding insurance; HRS = Hard Red Spring (Dark Northern Spring), 14 percent protein, Pacific Northwest; APW = Australian Prime White, Kwinana (Western Australia); HRW = Hard Red Winter, 11.5 percent protein, Gulf; Argentina = 12 percent protein, Up River; SW = Soft White, Pacific Northwest; ASW = Australian Standard White, Kwinana (Western Australia).
Note: Monthly average prices based on daily quotes.
Source: USDA, Economic Research Service calculations based on data from the International Grains Council.

Hard Red Winter

U.S. HRW production was up 14 percent in 2021/22 with larger area and yields. Overall supplies of this class are estimated up slightly with tight beginning stocks partly offsetting the larger crop. HRW exports are projected at 310 million bushels, down 9 percent from the previous year and the lowest level since 2015/16. HRW exports started the year relatively competitive with other global suppliers, but market conditions gradually shifted over the course of the year (figure 4). In the early part of this marketing year, high prices for Hard Red Spring (HRS) pushed some domestic milling demand over to HRW, resulting in stronger domestic use. This development, combined with domestic transportation challenges (such as delays in rail shipments), contributed to strengthen HRW prices as the year progressed. Then, as the Russia-Ukraine conflict emerged as a key issue influencing the global wheat market, export prices for HRW and Soft Red Winter (SRW) surged as these classes were more directly competitive with wheat from the European Union and the Black Sea region. HRS prices rose, but to a lesser degree, resulting in HRS export quotes arriving at a rare discount relative to HRW. Prices for major competitors also surged substantially with the conflict in Russia and Ukraine, but major suppliers still retain a large price discount relative to U.S. wheat (figure 7).

Figure 7

U.S., French, and Argentine wheat prices, January 2019–March 2022



1/ HRS = Hard Red Winter, 11.5 percent protein, Gulf.
2/ SRW = Soft Red Winter, Gulf.
3/ EU = European Union, Grade 1, Rouen.
4/ 12 percent protein, Up River.
Note: monthly average prices are calculated based on daily freight-on-board (FOB) quotes.
Sources: USDA, Economic Research Service Calculations based on data from the International Grains Council.

Total commitments of U.S. HRW as of March 31 (week 44) are down 12 percent from the previous year, with the largest reductions accounted for by China and Brazil (table 5). China accounts for nearly all the year-to-year difference, with exports to all other markets nearly the same as last year. China's overall level of imports is slightly lower this year and exports to this market are down as shipments from Australia are more competitively priced. Exports to Brazil are almost nonexistent this marketing year. Argentina's supplies are abundant and delivered at a substantial discount to U.S. wheat. Lower ocean freight rates from Argentina to Brazil compound the effects of cheaper Argentinian FOB prices compared to those from the United States Gulf. In the first 10 months of the marketing year, the average cost to ship wheat from Argentina to Brazil was $26 per MT, 53 percent below the cost from the U.S. Gulf of $40 per MT. The average landed price of the U.S. Gulf HRW to Brazil over that period was $401 per metric ton, 19 percent higher than the landed price for wheat from Argentina (table 1). Argentina has some additional advantage from being a member country of the Mercosur trade pact and being able to import duty free. However, since 2019/20, Brazil has had a tariff-free quota (TRQ) of 750,000 MT that allows non-Mercosur trade partners to export wheat to Brazil without the 10-percent duty added. In 2021/22, the TRQ appears to have been filled only minimally, likely a result of Argentina sustaining such a large price advantage throughout the marketing year.

U.S. HRW exports to Indonesia dropped off entirely with importers shifting to other origins (discussed in HRS section). Chile and Ecuador reduced purchases of both U.S. and Canadian wheat, with Argentina obtaining a larger market share relative to the previous year. Even as U.S. competitiveness dimmed this year, there were some markets that showed stronger demand than last year. HRW shipments to Nigeria and Colombia are up from the previous year with reduced competition from Canada. Exports of HRW to the Philippines are up from a year ago even though shipments of other U.S. wheat classes are down. Notably, Philippines is importing less wheat from Russia. In these markets, HRW emerged as a lower cost option to obtain wheat of relatively high protein levels.

Table 5
U.S. total commitments of HRW wheat as of week 44, by country (metric tons) 1/

Country	*2020/21*	*2021/22*	*Difference*	*Percent change*
China	1,223,531	198,002	(1,025,529)	(84)
Brazil	513,408	33,000	(480,408)	(94)
Indonesia	286,964	55,000	(231,964)	(81)
Chile	232,252	33,720	(198,532)	(85)
Ecuador	188,318	35,257	(153,061)	(81)
Nigeria	982,619	1,317,515	334,896	34
Colombia	145,171	409,426	264,255	182
Philippines	39,685	196,224	156,539	394
Others	4,935,952	5,269,176	333,224	7
Total	**8,547,900**	**7,547,320**	**(1,000,580)**	**(12)**

Note: Specific dates vary from year to year. Week 44 is March 31, 2022 for 2021/22 and April 1, 2021 for 2020/21.

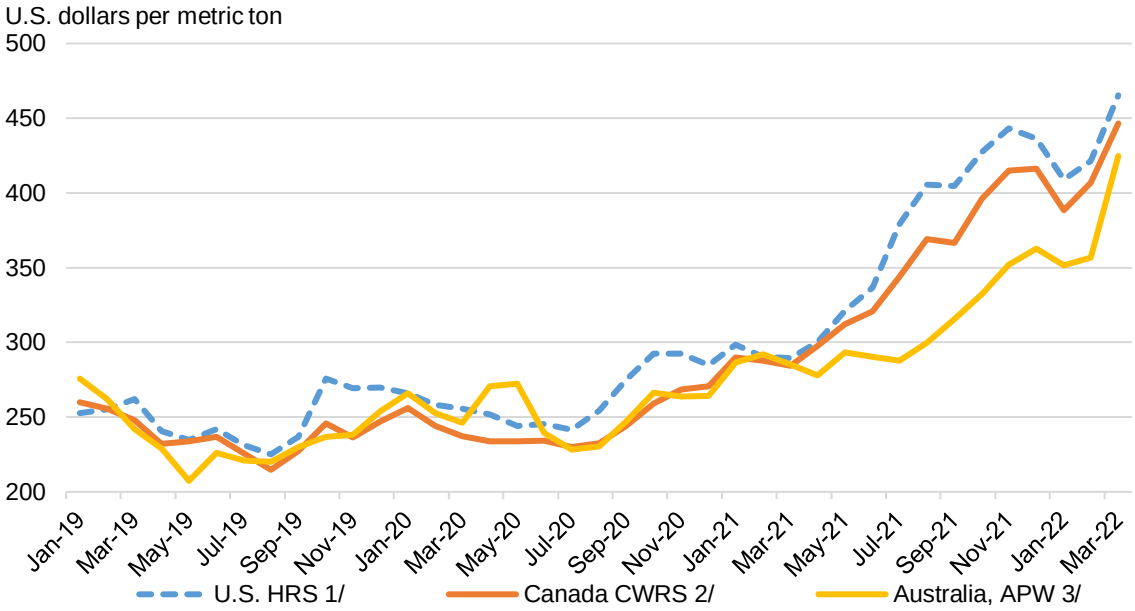
1/ HRW = Hard Red Winter.
Source: USDA, Economic Research Service calculations using data from USDA, Foreign Agricultural Service, *U.S. Export Sales*.

Hard Red Spring

HRS is another major class of wheat whose production was hobbled by drought in the 2021/22 marketing year. HRS production was down 44 percent from the previous year to the lowest level in 33 years. The crop was planted in dry conditions during the spring, with drought deepening even more through the summer months. Canada's key spring wheat production provinces (Manitoba, Saskatchewan, and Alberta) were parched by this drought and yields were cut substantially. Canada's crop was estimated at 21.7 million MT, down 38 percent year to year and the lowest in 14 years. Export quotes for both U.S. and Canadian spring wheat increased significantly starting in the spring of 2021 (figure 8). There are limited options for high-protein spring wheat in the global market, but Australian Prime White (APW) wheat is somewhat a competitor in this category. APW quotes, which typically are relatively close to U.S. and Canadian spring wheat prices, showed a significant discount in the current marketing year, reflecting Australia's record crop.

Figure 8

U.S., Canadian, and Australian wheat prices, January 2019–March 2022



1/ HRS = Hard Red Spring (Dark Northern Spring), 14 percent protein, Pacific Northwest.
2/ CWRS = Canadian Western Red Spring, 13.5 percent protein, Vancouver.
3/ APW = Australian Prime White, FOB Kwinana (Western Australia).
Note: monthly average prices are calculated based on daily freight-on-board (FOB) quotes.
Sources: USDA, Economic Research Service Calculations using data from the International Grains Council.

With the United States and Canada being major producers of high-protein wheat and limited alternatives available in the global market, users substituted to lower-priced alternatives. In the United States, flour mills adapted to managing protein levels by switching between wheat classes based on protein and other specifications. The HRS crop harvested in 2021 was small but had a larger-than-normal protein content, the result of high plant stress caused by drought. The average protein level, according to U.S. Wheat Associates' *Crop Quality Report*, was 15.4 percent, the highest in more than a decade. This high protein content was a further contributor to mills adjusting their blend ratios to use more HRW. HRS food use is estimated down 10 percent to 238 million bushels for the 2021/22 marketing year. This represents 24.8 percent of the overall wheat food use for the season, the lowest percentage for HRS in the overall blend since 2012/13.

U.S. export commitments of HRS are down 30 percent from last year (table 6), with the largest reductions accounted for by China, the Philippines, and Vietnam. These markets and other major Asian buyers of HRS largely pivoted toward Australian wheat in 2021/22. Vietnam also increased its imports of wheat from the European Union to compensate for reduced U.S. imports. The Philippines imported more from India and Canada. Some alternative origins were not likely to have provided the exact specification of grain to replace high-protein spring wheat,

but importers appear to be managing purchases adaptively regarding price and availability in the marketplace. HRS exports are forecast to reach 205 million bushels, the smallest since 1990/91.

Table 6
U.S. total commitments of HRS wheat as of week 44, by country (metric tons) 1/

Country	*2020/21*	*2021/22*	*Difference*	*Percent change*
China	740,762	-	(740,762)	(100)
Philippines	1,830,481	1,502,103	(328,378)	(18)
Vietnam	323,244	80,095	(243,149)	(75)
Bangladesh	229,987	-	(229,987)	(100)
Indonesia	166,509	-	(166,509)	(100)
Thailand	365,374	238,060	(127,314)	(35)
Taiwan	635,295	513,347	(121,948)	(19)
Japan	960,533	811,371	(149,162)	(16)
Others	2,296,800	2,147,081	(149,719)	(7)
Total	**7,548,985**	**5,292,057**	**(2,256,928)**	**(30)**

Note: Specific dates vary from year to year. Week 44 is March 31, 2022 for 2021/22 and April 1, 2021 for 2020/21.

1/ HRS = Hard Red Spring.
Source: USDA, Economic Research Service calculations using data from USDA, Foreign Agricultural Service, *U.S. Export Sales*.

White Wheat

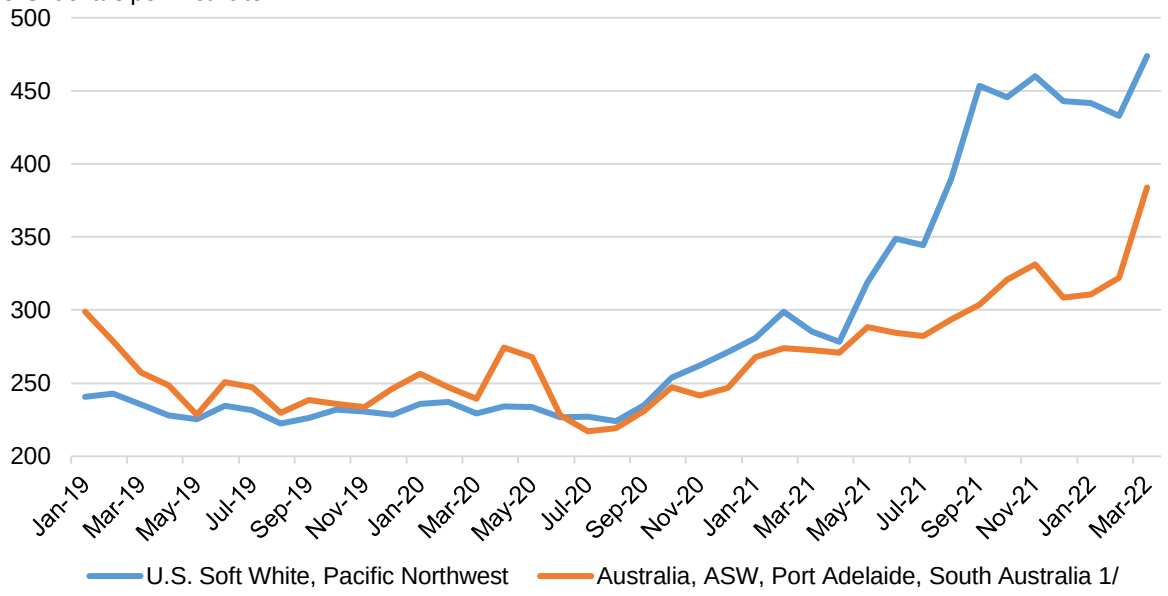
U.S. White wheat production was substantially affected by drought in the Pacific Northwest (PNW) in 2021/22. Area harvested was relatively steady from the previous year, but yields are estimated 34 percent down from the previous year to 49.2 bushels per acre. White wheat production is estimated at 201 million bushels, the lowest on record[1] with tight supplies resulting in substantially higher prices. U.S. White wheat exports are forecast at 145 million bushels, the smallest since 2009/10. Figure 9 shows the effect of drought on Soft White (SW) prices (Soft White is the largest component of the overall White wheat category). Major growing areas experienced minimal rainfall in the developmental stages of this crop and prices gradually moved higher. By the time the bulk of the harvest was underway in June and July 2021, the FOB price of Soft White started its meteoric ascent, eventually reaching more than $450 per metric ton in September, holding approximately a $150-per-metric-ton premium over Australian wheat.

[1] The USDA, Economic Research Service "Wheat Data" by-class data covers the period back to 1974/75, excluding the years 1984/85 and 1985/86.

Figure 9

U.S. and Australian wheat prices, January 2019–March 2022

U.S. dollars per metric ton



1/ ASW = Australian Standard White
Note: monthly average prices are calculated based on daily quotes.
Sources: USDA, Economic Research Service Calculations using data from the International Grains Council.

Australian wheat prices were very competitive internationally in the first half of 2021 due to large supplies left over from its then record 2020/21 harvest. Australia is the world's leading producer of White wheat, but produces primarily Hard White wheat, which is not fully comparable to the Soft White exported by the United States. Near the end of 2021, Australia harvested another record-large crop, which further contributed to their competitive advantage, especially in exports to nearby Asian markets.

According to *U.S. Export Sales* data reported by USDA's Foreign Agricultural Service, total commitments (accumulated exports plus outstanding sales) of U.S. White wheat are 3.3 million metric tons (MT) as of March 31, down 50 percent from the same week last year. Notably, key U.S. SW buyers such as Japan and Taiwan did not substantially change their buying patterns. These countries tend to be price inelastic and specifically seek out U.S. SW for its favorable milling characteristics. The largest reductions in U.S. White wheat commitments from the previous year were seen for China, South Korea, and Indonesia (table 7). These countries are more price sensitive and more willing to seek out alternative supplies. China bought an unusually large amount of U.S. White wheat in 2020/21 when its price was considerably less and purchased very little this year. China has ramped up its purchases of Australian wheat as well as U.S. Soft Red Winter (SRW), while reducing imports of other U.S. classes. South Korea's buying patterns changed as they purchased less U.S. SW wheat, but substantially more

from the European Union and Australia. Meanwhile, Indonesia has pivoted from buying U.S. White wheat into buying Australian wheat. To a limited extent, Indonesia also purchased U.S. SRW.

Table 7
U.S. total commitments of White wheat as of week 44, by country (metric tons)

Country	*2020/21*	*2021/22*	*Difference*	*Percent change*
China	1,054,974	296,080	(758,894)	(72)
South Korea	1,100,160	552,984	(547,176)	(50)
Indonesia	418,845	6,516	(412,329)	(98)
Yemen	294,787	-	(294,787)	(100)
Philippines	1,303,724	1,017,227	(286,497)	(22)
Chile	114,568	-	(114,568)	(100)
Thailand	304,153	206,195	(97,958)	(32)
Japan	641,901	624,402	(17,499)	(3)
Nigeria	257,170	248,019	(9,151)	(4)
Others	1,131,790	388,600	(743,190)	(66)
Total	**6,622,072**	**3,340,023**	**(3,282,049)**	**(50)**

Note: Specific dates vary from year to year. Week 44 is March 31, 2022 for 2021/22 and April 1, 2021 for 2020/21.
Source: USDA, Economic Research Service calculations using data from USDA, Foreign Agricultural Service, *U.S. Export Sales*.

Substantial hikes in ocean freight prices from the United States in 2021/22 further pressured U.S. wheat's ability to compete in Asian markets compared to Australia. Between June 2021 and March 2022, the average cost to ship wheat from the Pacific Northwest (PNW) to China jumped 74 percent year-over-year to $40 per MT. While the average cost to ship from western Australia to the same destination was only $33 per MT. The average landed price of U.S. SW to China of $463 per MT was 33 percent higher than the landed price of Australian ASW to China over the same period. In the first half of the marketing year, it cost shippers in the PNW an average of $54 per MT to export wheat to Indonesia, significantly higher than the average cost to ship wheat from Australia at $31 per MT. The average landed price of U.S. SW to Indonesia at $478 per MT traded at a 39 percent premium to Australia ASW over the same period (table 1).

Soft Red Winter

Soft Red Winter (SRW) wheat production in 2021/22 is up 35 percent from the previous year to 361 million bushels based on expanded area and a record[2] yield of 72.6 bushels per acre. Total

[2] Using data from the USDA, Economic Research Service "Wheat Data" product, which provides by-class historical yield data back to 1986/87.

supply is estimated up 20 percent year to year but remains close to the previous five-year average. U.S. SRW exports are projected at 110 million bushels, up 59 percent from the previous year and the largest total in 3 years. Similar to HRW, SRW exports were relatively competitive in the early part of the year but became expensive relative to key competitors later in the marketing year (figure 4). Since the start of the Russia-Ukraine conflict, SRW export quotes surged and continue to maintain a large price premium over key competitors.

In contrast with the other classes of U.S. wheat, SRW total export commitments are up 55 percent from last year (table 8). The countries with the largest year-to-year growth in SRW total commitments are Mexico, Nigeria, China, Guatemala, Indonesia, and Ecuador. Notably, all these countries purchased less White wheat than they did at this time last year. This suggests that SRW is at least a partial replacement for SW wheat in some markets. It remains to be seen whether these sources of demand will continue seeking out SRW or if some of these purchases may have simply been a short-term measure to compensate for tight supplies of SW wheat.

Table 8
U.S. total commitments of SRW wheat as of week 44, by country (metric tons) 1/

Country	*2020/21*	*2021/22*	*Difference*	*Percent change*
Mexico	616,519	887,046	270,527	44
Nigeria	48,725	244,470	195,745	402
China	180,932	353,778	172,846	96
Guatemala	22,535	83,083	60,548	269
Indonesia	6,529	60,457	53,928	826
Ecuador	46,607	97,114	50,507	108
Others	873,010	1,047,393	174,383	20
Total	**1,794,857**	**2,773,341**	**978,484**	**55**

Note: Specific dates vary from year to year. Week 44 is March 31, 2022 for 2021/22 and April 1, 2021 for 2020/21.

1/ SRW = Soft Red Winter.
Source: USDA, Economic Research Service calculations using data from USDA, Foreign Agricultural Service, *U.S. Export Sales*.

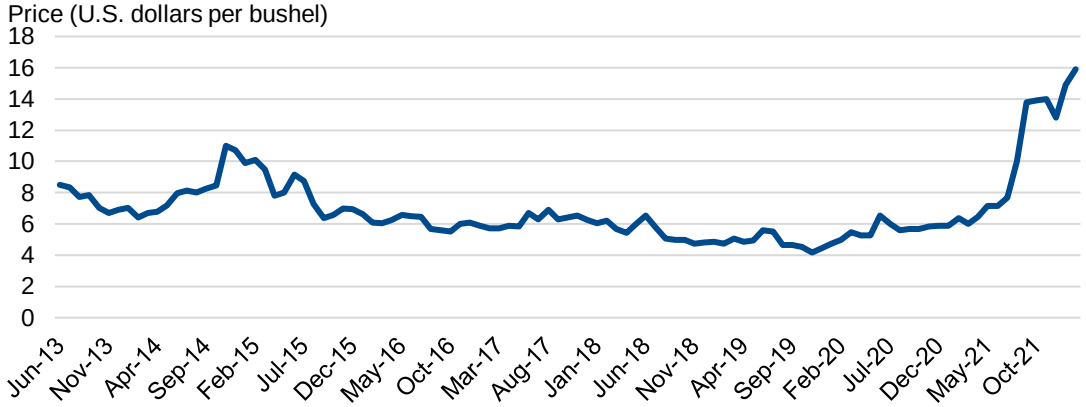
Durum

Most U.S. Durum production is in the Northern Plains and was therefore affected by the same drought conditions that affected HRS production. U.S. 2021/22 Durum production was down 46 percent from the previous year to 37 million bushels, the smallest Durum crop in 60 years. However, the United States is a net importer of Durum, unlike other classes, with the largest

portion of the imports coming from Canada (grain) and the European Union (pasta from Italy). U.S. imports of Durum are projected only marginally up from 2020/21 as Canada's supplies also were constrained by drought. U.S. Durum exports are projected down by nearly half to 15 million bushels with limited supplies and high prices. U.S. and international Durum prices surged in this marketing year, likely contributing to some reduction in demand (figure 3). Notably, the February average price received by U.S. farmers for Durum was $15.90 per bushel, the highest in the dataset (back to 1981) and more than double the price from a year earlier. U.S. Durum consumption was elevated in 2019/20 and record large in 2020/21, mainly driven by increased pasta demand while consumers were staying at home during the early months of the Coronavirus (COVID-19) pandemic. In 2021/22, this trend reversed with Durum consumption expected to reach only 77 million bushels, down 12 percent from 2020/21 and the lowest total in a decade. Some of this reduction is based on a return to more normal consumer trends after the pandemic; a marginal amount of Durum milling in the United States may have been replaced with other classes based on price considerations.

Figure 10

Durum price received, June 2013–February 2022



Source: USDA, National Agricultural Statistics Service.

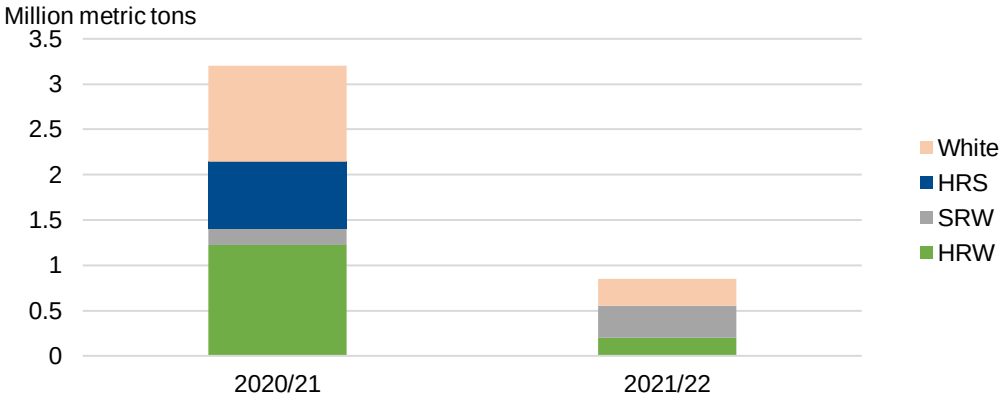
Conclusion

U.S. exports of all-wheat are at one of the lowest points on record. The 2021/22 wheat marketing year has been categorized by several major shifts in the market. U.S. White wheat, HRS, and Durum growing regions all experienced major drought, resulting in tight supplies and reduced exports. HRW production was not affected by the same climatic conditions, but exports of this class are still down based on diminished competitiveness. SRW is the lone class showing larger exports year over year, mainly driven by larger supplies as well as a small amount of demand switching from typical White wheat customers. High freight rates in some cases

exacerbate these competitiveness issues with the United States losing some key markets to competitors that are better positioned to fill demand, specifically Australia and Argentina. China is the most substantial example of lost U.S. market share this year, with total commitments of HRW, HRS, and White wheat all down substantially this year, while only commitments of SRW are stronger (figure 11).

Figure 11

U.S. total commitments of wheat to China as of week 44, 2020/21 and 2021/22



Note: Specific dates vary from year to year. Week 44 is March 31, 2022 for 2021/22 and April 1, 20221 for 2020/21; SRW=Soft Red Winter; HRW=Hard Red Winter; HRS=Hard Red Spring.
Source: USDA, Economic Research Service calculations based on data from USDA, Foreign Agricultural Service, *U.S. Export Sales*.

Suggested Citation

Sowell, Andrew R., Bryn Swearingen, and Claire Hutchins. *Wheat Outlook: April 2022*, WHS-22d, U.S. Department of Agriculture, Economic Research Service, April 12, 2022.