



Wheat Outlook: May 2021

Jennifer K. Bond, Coordinator
Andrew Sowell, Contributor

In this report:

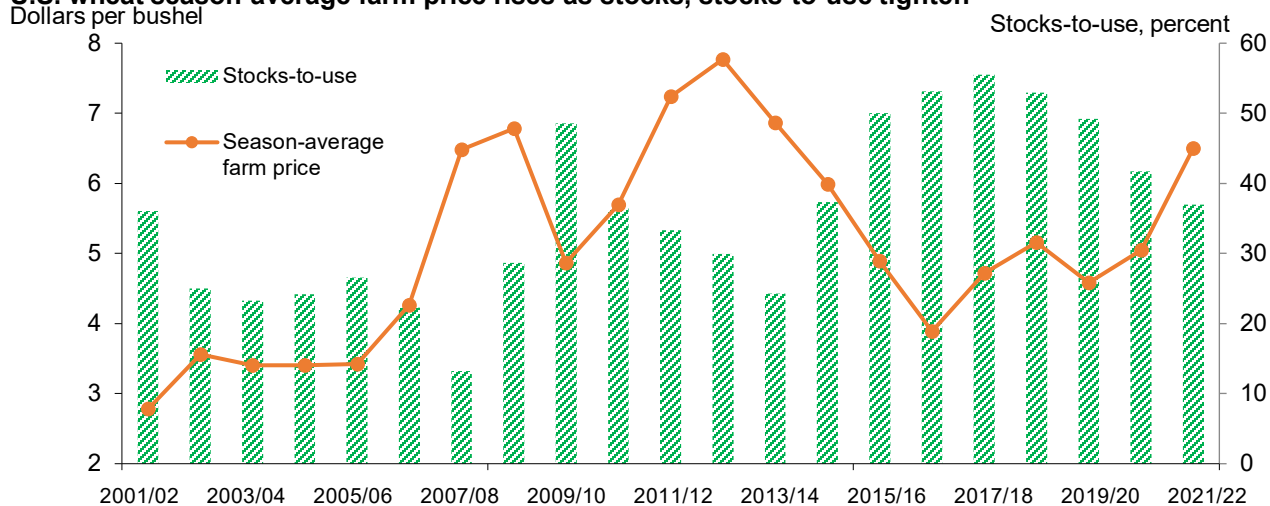
- [Domestic Outlook](#)
- [International Outlook](#)

Tightened Supplies Lift 2021/22 U.S. Wheat Price to 8-Year High

This month, USDA, National Agricultural Statistics Service (NASS) released the first survey-based winter wheat production forecast for the 2021/22 marketing year, indicating a 10 percent year-to-year increase. Despite expectations for elevated winter and aggregate wheat production, lower carryin stocks result in tighter U.S. supplies. Ending stocks for the 2021/22 marketing year are projected to fall 11 percent with a stocks-to-use ratio of 37 percent. Due to a significantly tighter balance sheet and strengthening corn prices, the U.S. wheat season average farm price is forecast to reach \$6.50 per bushel, the highest in 8 years (figure 1).

Figure 1

U.S. wheat season-average farm price rises as stocks, stocks-to-use tighten



Sources: USDA, *World Agricultural Supply and Demand Estimates* and USDA, Economic Research Service calculations.

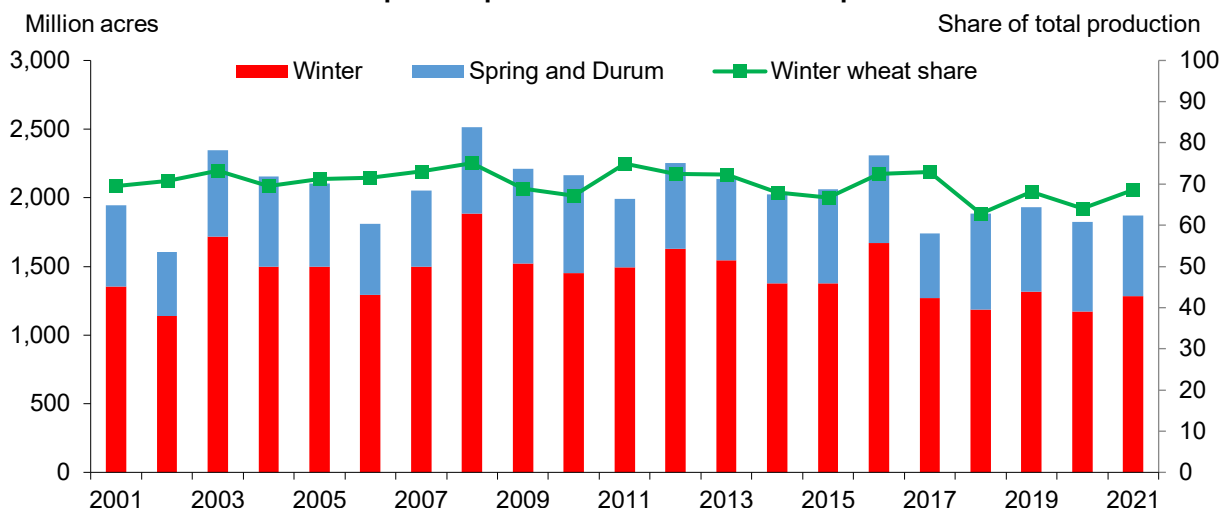
Domestic Outlook

Domestic Changes at a Glance:

- U.S. wheat production for 2021/22 is projected at 1,875 million bushels, up 3 percent from 2020/21.
 - Winter wheat production is forecast at 1,283 million bushels, up 10 percent from 2020 on higher hard red winter and soft red winter production; offsetting expectations for a reduced white winter wheat harvest.
 - Winter wheat production is expected to comprise nearly 69 percent of total U.S. production in 2021/22, the highest share since 2014 (figure 2).
- Greatly expanded feed and residual use in the new marketing year, raised 70 million bushels from 2020/21, combines with slightly higher food use for a net 6 percent increase in domestic use.
- The May 3, 2021 NASS *Flour Milling Products* report indicated sharply lower third quarter (marketing year) food use resulting in a 5-million-bushel reduction in 2021/22 wheat food use to 960 million and a revised outyear projection of 963 million.
- On higher combined use and smaller supplies, carryout for the new marketing year is forecast at the lowest level since 2014/15.
- Tighter stocks support a sharp rise in the U.S. wheat season-average farm price (SAFP).
 - At \$6.50 per bushel, the wheat SAFP is \$1.45 per bushel higher than the prior year and the highest since 2013/14.

Figure 2

Winter wheat forecast to comprise expanded share of U.S. wheat production in 2021



Sources: USDA, National Agricultural Statistics Service, *Quickstats database* and USDA, Economic Research Service calculations.

Table 1 - U.S. wheat supply and utilization at a glance 2020/21 and 2021/22

Balance sheet item	2020/21 April	2020/21 May	2020/21 Change from previous month	2021/22	Comments
Supply, total					<i>June-May Marketing Year (MY)</i>
Beginning stocks	1,028	1,028	0	872	Reduced carryin from 2020/21 contributes to tighter 2021/22 U.S. wheat supplies.
Production	1,826	1,826	0	1,872	A 10-percent-increase in winter wheat production contributes to a net 3-percent-increase in 2021/22 production.
Imports	110	105	-5	125	2021/22 supplies are augmented by increased imports.
Supply, total	2,964	2,959	-5	2,869	On net, supplies in the new marketing year are projected down 3 percent.
Demand					
Food	965	960	-5	963	Sluggish third quarter food use reduces prospects for aggregate food use in 2021/22 and tempers projected year to year increases for 2021/22.
Seed	62.5	62.5	0	62.0	
Feed and residual	100	100	0	170	A shrinking wheat-to-corn price ratio boosts first quarter wheat feeding in 2021/22.
Domestic, total	1,128	1,122.5	-5	1,195.0	
Exports	985	965	-20	900	U.S. wheat faces strong competition from several exporting countries. Higher U.S. prices are expected to make exports less competitive in 2021/22.
Use, total	2,113	2,087.5	-25	2,095.0	Expanding feed and residual use more than offsets reduced export prospects to lift forecast total use in 2021/22.
Ending stocks	851	871.3	20	773.6	Reduced supplies combine with increased use to tighten carryout in the outyear.
Season-Average Farm Price	\$5.00	\$5.05	\$0.05	\$6.50	A tighter stocks-to-use ratio and significantly higher corn prices both serve to support a sizable wheat price increase in 2021/22.

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

2021 Winter Wheat Production Up on Expanded Harvested Area and Yields

This month, USDA-NASS released the first survey-based winter wheat production forecast for the 2021/22 marketing year. A previously published U.S. wheat production forecast for the new marketing year was released at the USDA Agricultural Outlook Forum in February. That forecast reflected winter wheat production that was a function of both trend yields and long-term average harvested-to-planted ratio and sowings indicated in the January 2021 NASS *Winter Wheat and Canola Seedings* report. Based on objective yield and farmer surveys conducted from late April to early May, NASS forecasts winter wheat production to exceed 1.28 billion bushels, an increase of 10 percent from 2020/21. Forecast yields are 52.1 bushels per acre, up 1.2 bushels from the prior year and due, in part to yield recovery in key winter wheat producing States: Colorado, Kansas, Nebraska, and Texas. An expansive freeze event in mid-April that spread across the Plains and the Midwest is reported to have caused potential harm to the winter wheat in the jointing and heading stages, and inhibited maturation. Indeed, the latest *Crop Progress* report shows winter wheat heading to be 8 percent behind the 5-year average. The report further indicates 49 percent of the 2021 winter wheat crop is in in “good” to “excellent” condition compared to 53 percent for the same week, last year.

New Crop Spring Sowings, Maturity Ahead of Average Pace

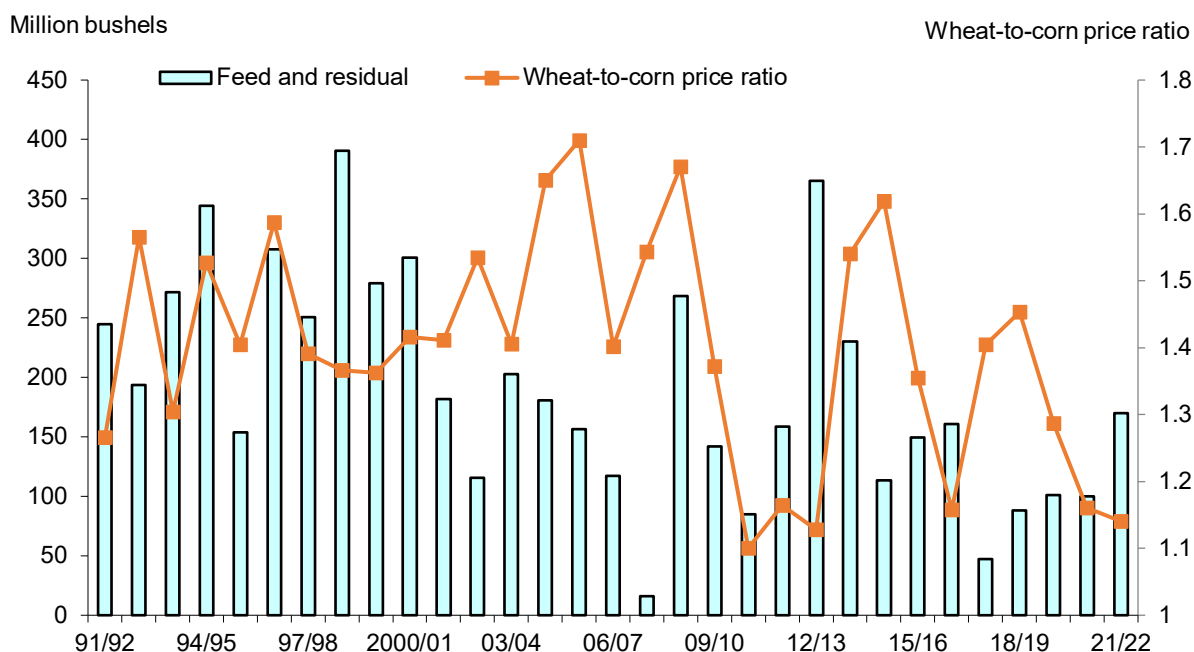
The first NASS forecast for other spring wheat and durum production for the 2021/22 marketing year will be released in July. Current projections are based on plantings intentions published reported in the March 2021 NASS *Prospective Plantings* report, long-term trend yields, and 10-year harvested-to-planted ratios. In the Northern Plains, dry and warm conditions have supported a brisk planting pace for the spring wheat crop. At 70 percent planted, as of the week ending May 9, 2021, progress is 19 percent ahead of the 5-year average. Emergence, at 29 percent, is also ahead of the 5-year average pace, reflective of both earlier sowing and expedited maturation aided by warm conditions. The U.S. Drought Monitor for May 13, 2021 indicates that much of North Dakota, a key spring wheat producing State, is experiencing D3 or “extreme drought” conditions. Sections of Eastern Montana and Northern South Dakota are also showing signs of extreme drought with areas of severe-to-moderate drought extending across both States.

Wheat Feed and Residual Use Forecast to Climb in 2021/22

Forecasts indicate expectations for increased production of feed grains in 2021/22, largely on expanded corn production. Wheat, a principal food grain, is also used in animal feeding and is similarly expected to have a larger harvest. Despite increased production, stocks-to-use ratios for corn and wheat are forecast to fall in the coming marketing year supporting higher farm prices. With the price of corn rising proportionally more than for wheat, downward pressure is applied to the wheat-to-corn price ratio, increasing the favorability of blending wheat into feed rations (figure 3). Increased wheat production augments the residual portion of wheat feed and residual use which, in combination with expected increases in first quarter wheat feedings, supports an increase of 70 million bushels (or nearly 60 percent) to 170 million in 2021/22.

Figure 3

U.S. wheat feed and residual use supported by weaker wheat-to-corn price ratio



Sources: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* and USDA, Economic Research Service calculations.

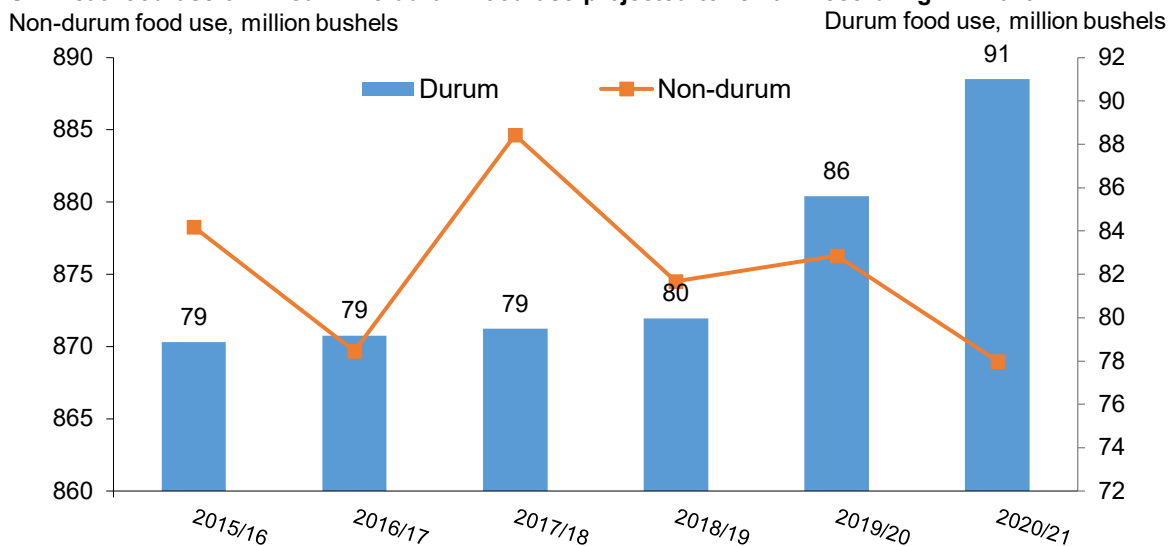
U.S. Food Use Cut on Weak Third Quarter, Durum Food Use Remains Record-High

On May 3, USDA, NASS released the quarterly *Flour Milling Products* report (*FMP*), providing milling data through March 2021. Flour milling data for the first 10 months of the 2020/21 marketing year indicate that trade-adjusted wheat food use is now 4.7 million bushels lower than the same period a year prior. The previous *FMP* showed a sharply different picture, with wheat

food use through the first seven months running more than 3 million bushels ahead of the 2019/20 pace. The reversal in course reflects COVID-19-influenced consumption patterns that have greatly affected the amount of food purchased away from home and food consumed in the home. During the early months of the 2020/21 marketing year, which largely coincided with widespread stay at home orders, stocking up behavior and the popularity of home baking bolstered demand for wheat products and more than offset reduced food service demand. However, in the later months of the marketing year, it is clear that the cumulative effect of reduced consumption of food eaten away from home and tempered enthusiasm for flour consumption in the home has put significant pressure on monthly wheat food use figures. Based on current trends and expectations for average food use in April and May of 2021, the 2020/21 U.S. wheat food use figure is trimmed 5 million bushels this month to 960 million. On expectations for continued population growth, but reduced per capita consumption, wheat food use for 2021/22 is raised just 3 million bushels from the current marketing year.

Figure 4

U.S. wheat food use trimmed while durum food use projected to remain record high in 2020/21



Sources: USDA, National Agricultural Statistics Service, U.S. Bureau of Census, and USDA, Economic Research Service calculations.

In contrast to aggregate food use, durum food use for the current marketing year continues to trend above last year and well-above average use calculations. At 91 million bushels, durum food use for 2020/21 is record-high (figure 4). Elevated consumption of durum flour and semolina reflects increased pasta consumption—an affordable staple that saw renewed popularity during the COVID-19 pandemic. Durum food use through the first 10 months of the marketing year is running 6.3 million bushels ahead of the prior year. Nearly 5 million bushels of this increase (or nearly 80 percent) is accounted for by expanded imports of durum food products—largely pasta. The U.S. imports durum food products primarily from Italy and Canada.

International Outlook

Global Wheat Production Forecast at a Record in 2021/22

Global wheat production is projected up 12.9 million metric tons (MT) to a record 789 million MT in 2021/22 with higher output in major producing countries accounting for most of the increase. The **European Union** is the largest driver of the year-to-year increase, with its output projected up by 8.1 million MT to 134 million with higher area and yield.

Among other major exporters, **Argentina**, **Ukraine**, and the **United States** are up by a combined 7.7 million MT. **Argentina's** crop is projected up 2.9 million MT to a record 20.5 million. Area harvested is projected up slightly based on favorable planting conditions and strong prices. Growers are reportedly forward selling a larger portion of this year's crop with the expectation of a large supply and favorable pricing. Yields are expected to rebound to 3.15 MT/hectare after dry conditions reduced output in 2020/21. **Ukraine** is projected to have production rebound 3.6 million MT to 29 million, primarily on higher yields. Harvested area is projected close to the level of 2020/21. Both Ukraine's yield and total production are projected to be the second-highest on record. **U.S.** production is forecast up 1.3 million MT to 50.9 million.

Partly offsetting these increases, **Australia** and **Canada** are projected down a combined 9.1 million MT. Australia is forecast down 6 million MT to 27 million with yields expected to return to normal levels after a record-large 2020/21 crop. Area is up with favorable prices and uncertain international market prospects for its barley exports due to China's continued trade restrictions. **Kazakhstan** and **Russia** are projected marginally smaller. **Russia** is still forecast to have its third largest crop ever with winter wheat projected at 64 million MT and spring wheat at 21 million MT. Area is forecast slightly larger, while total yields are projected down slightly. For more detail, see this month's *World Agricultural Production* report published by the Foreign Agricultural Service.

Outside of the major producing countries, **Morocco** shows the largest year-to-year change, which is projected up 4.2 million MT to 6.8 million. After two years of drought conditions, higher rainfall has raised expectations for its upcoming crop, as conditions are substantially improved from a year ago. Wheat output in the **United Kingdom** is projected to rebound 4.4 million MT to 14.1 million based on higher area and yield. **China** is projected up 1.75 million MT to 136 million with higher expected yields more than offsetting reduced area. India is projected up slightly to a record 108 million MT with larger area. **Iran** is projected to produce 15 million MT, down 1.75 million from the last year as persistent dry conditions in some growing regions are expected to

reduce yields below recent bumper crops. Similarly, **Syria** is projected down 1.7 million MT to 2.8 million with yields lower amid continued dry conditions. **Turkey** is forecast down 1 million MT to 17.25 million on lower expected yield and area.

Global Consumption Also Projected to Reach a Record

Wheat consumption is projected at a record high 788.7 million MT, driven mainly by the long-term increase of food, seed, and industrial (FSI) use, which represents nearly 80 percent of total consumption. FSI use is primarily accounted for by food use, which tends to rise over time with population and income growth. FSI consumption is projected to rise 9.6 million MT to 626.6 million, driven by steady growth across many markets. The largest year-to-year boost in FSI is for **China**, which is projected up 3 million MT to 113 million. China is again projected as the world's leading wheat consuming country, with growth in the next year expected to be driven by both stronger food and industrial use. FSI use for the **United Kingdom** is up 1.1 million to 8.2 million with industrial use expected much stronger for 2021/22. More wheat is expected to be used for ethanol based on the country's decision to raise its blending mandate from E5 to E10. **India**, the world's third-largest wheat consuming country, is projected to have FSI at 98 million MT, up 1.4 million from last year based on rising food use.

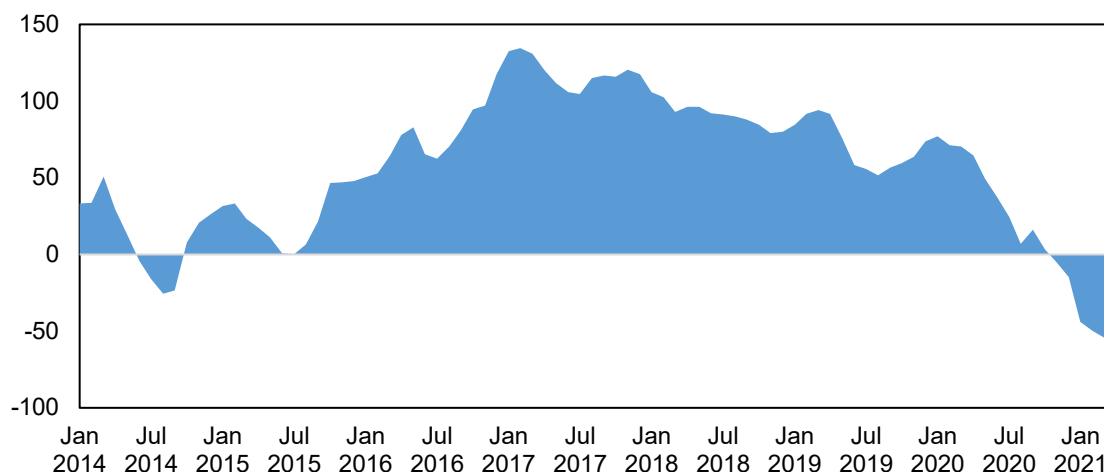
Feed and residual use is only slightly up from the previous year to a record 158.7 million MT. This component of consumption reflects assumptions of feed use, as well as residual use, which tends to be related to crop size and quality. With larger crops and higher relative prices for feed grains, feed and residual use for the **European Union** is projected 2 million MT higher at 44 million. Similarly, feed and residual use for the **United States** is projected up 1.9 million MT to 4.6 million, with much of the feeding expected to occur during the first quarter of the marketing year this summer before the onset of the new-crop corn harvest. Feed and residual is also projected higher for the **United Kingdom** and **Russia** with larger supplies. Conversely, **China's** feed and residual use is projected 5 million MT lower at 35 million. Even though feed grains, mainly corn, will be in greater supply in 2021/22 within China, but wheat feed and residual is still expected to be the second largest on record. China's national average corn prices declined somewhat during the month of April, which slightly diminished the price discount for wheat relative to corn (figure 5).

In addition to the two aforementioned categories of consumption, a slight adjustment is made to total global consumption based on trade considerations. There is a 3.4 million-MT difference between global exports and imports on a local marketing year (MY) basis for 2021/22. This unaccounted trade is added to total consumption under the assumption that all wheat traded is eventually consumed as global exports and imports balance.

Figure 5

China wheat-corn domestic price spread at historic low

Wheat-to-corn price spread



Notes: This price spread indicates the gap between wholesale national average prices for wheat and maize. Prices used in wheat-to-corn price spread are reported as U.S. Dollars per metric ton.
 Source: Food and Agriculture Organization of the United Nations, Global Information and Early Warning System.

Global Trade Raised Marginally

Global 2021/22 trade is projected to grow by 6.1 million MT to a record 203.2 million for the July/June trade year (TY). **Russia** is projected to again be the largest global exporter of wheat with shipments of 40 million MT, up 500,000 from the previous year. Russia's crop is only slightly smaller from the previous year's record. Overall supplies will be even larger with higher beginning stocks. The next largest supplier, the **European Union**, is projected up 3 million MT to 33 million with a much larger crop. The **United States** is forecast as the third largest wheat exporter, with shipments down 1.5 million MT to 25 million. **Canada** is projected to export 23.5 million MT, down 4 million from the previous year on smaller supplies. **Australia's** TY exports are projected up 1.5 million MT to 21 million based on the timing of its shipments, but its local marketing year (October-September) exports are projected down 2 million to 20 million with a smaller crop. **Ukraine's** exports are projected up 3 million MT to 20 million based on expectations of a bumper crop and competitive pricing. **Argentina's** exports are forecast at 13 million MT, up 3.5 million from the previous year based on a larger expected production. Exports for **Kazakhstan** are up 300,000 MT to 8 million MT, with demand expected strong despite a slightly smaller crop.

Higher levels of trade are supported by broad growth across a bevy of importing countries. The largest year-to-year growth is seen for **Algeria** (+1.1 million MT to 7.6 million) and **Turkey** (+1 million MT to 10 million) as both countries are expected to have smaller harvests and growing

demand. **Egypt** is projected to again be the world's leading importer at 13.2 million. Import demand there is expected to continue trending upwards roughly following consumption and population trends. **Indonesia** is projected as the world's second-largest importer with demand expected to rebound 750,000 MT to 10.75 million based on expectations of stronger consumption of wheat-based products outside of the home. Indonesia's imports were unusually low in 2020/21 as the effects of the COVID-19 pandemic diminished its consumption of wheat-based products.

While trade is up overall, there are some countries with notably lower import demand. The largest year-to-year decline is for **Pakistan**, with imports forecast down 2.8 million MT to 1 million, motivated by a much larger crop. Similarly, **Morocco** is projected to import 5 million MT, down 1.3 million from the previous year on larger supplies and re-imposing high wheat import tariffs. **China** is projected as the world's third-largest importer (tied with **Turkey**), with imports at 10 million MT. This represents a year-to-year reduction of 500,000 MT from the 25-year high estimated for 2020/21.

Global Stocks Up Slightly, but Down from Record

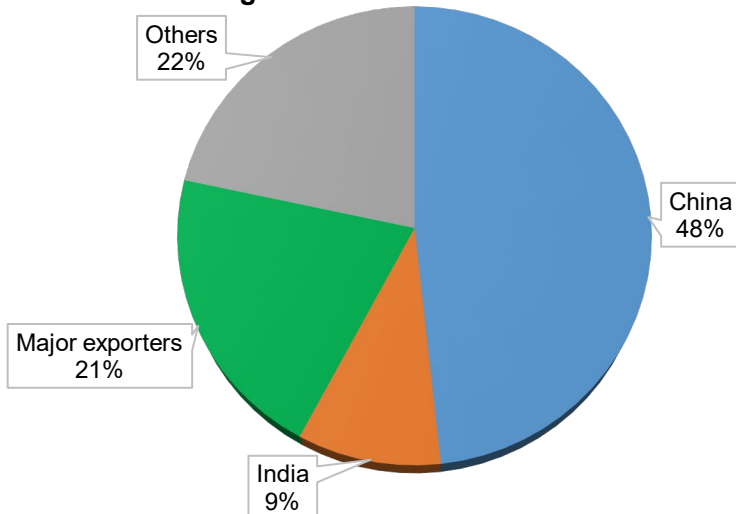
Global stocks are projected to rise marginally to 295 million MT but would remain slightly below the record-large ending stocks level of 2019/20. **China's** stocks are projected down about 3.0 million MT from the previous year to 142.4 million, marking a second straight year of decline. China is still projected to account for 48 percent of global stocks (figure 6). The next largest stockholder, **India**, is projected to have stocks up 825,000 MT to 28 million with another successive bumper crop.

Ending stocks among the major exporting countries are projected up 787,000 MT to 60.7 million (figure 7). This represents the second straight year of incremental gains among major exporter stocks, but the total is still down substantially from 2018/19. Exporter ending stocks are generally considered a relevant metric for assessing market availability as these are the supplies that are most available to the world market and exert an impact on global prices. The **United States** is still projected to be the largest stockholder among major exporting countries, but its ending stocks are forecast down for the fifth consecutive year, partly because of strong domestic feed demand. **U.S.** stocks are projected 2.7 million MT lower to 21.1 million, which would be the lowest total in 7 years. Conversely, **Russia's** stocks are projected up 3 million MT to 15 million because of another bumper crop and the imposition of a new floating export tax. Stocks for the **European Union** are projected up 500,000 MT to 9.7 million based on larger supplies. **Australia's** stocks are forecast down 800,000 to 4.8 million with a smaller crop.

Argentina's stocks are expected up by more than 500,000 MT to 3.1 million MT with a record-large crop. Slightly larger stocks are projected for **Ukraine** and **Kazakhstan**.

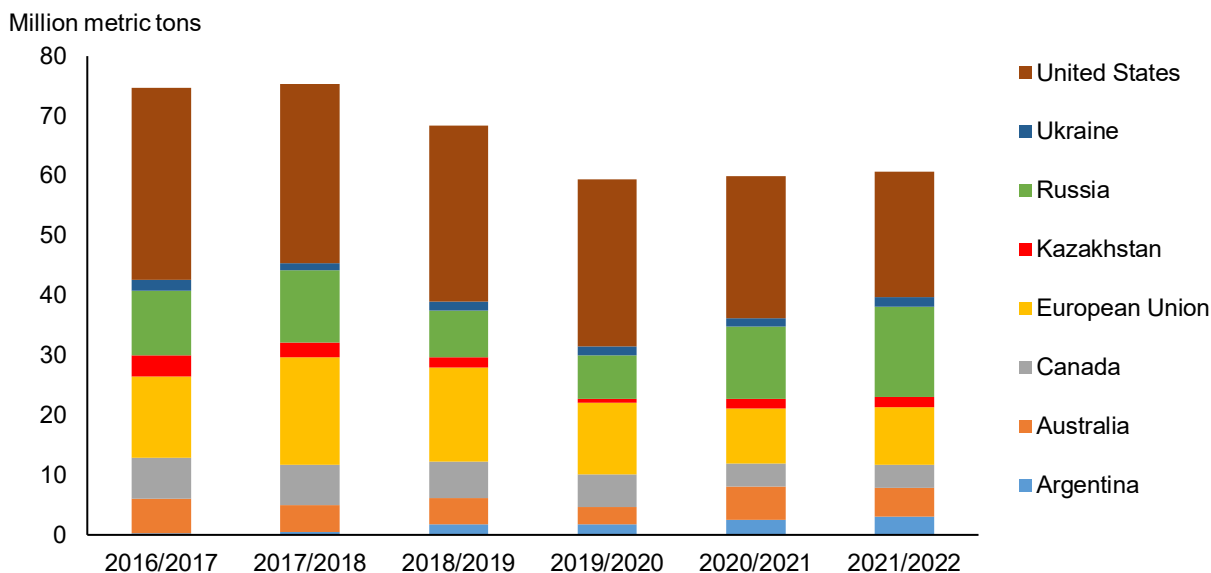
Outside of the major stockholding countries mentioned above, the major shifts in stock levels are mainly related to year-to-year changes in crop size. With dry conditions affecting their crops, stocks are expected to tighten in **Iran** (-1.1 million MT) and **Syria** (-800,000 MT). Conversely, **Morocco** (+1.2 million MT) is expected to rebuild stocks based on a much improved crop.

Figure 6
Distribution of ending stocks for 2021/22



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

Figure 7
Exporter ending stocks tightening



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

Updates to 2020/21 Data

Global production for 2020/21 was adjusted downward marginally this month, mainly driven by a reduction for **Azerbaijan**. Global consumption is nearly unchanged with several; mostly offsetting changes. Global trade is raised primarily due to larger exports for the **European Union**. **EU** exports were raised by 2.5 million MT from the previous month, but this change largely reflects the revision to EU-27 data as exports to the **United Kingdom** are now counted as external trade in the USDA *Production, Supply, and Distribution (PSD)* Database. Otherwise, major export adjustments were made to **Argentina** (-1 million MT), **Canada** (+500,000 MT), **Ukraine** (-500,000 MT), and the **United States** (-500,000 MT). The largest importer revisions this month were for **Ethiopia** (-500,000 MT), **Indonesia** (-500,000 MT), and **Turkey** (+800,000 MT). Trade changes overall were primarily motivated by the pace of trade to-date.

Statistical Updates

Note that as of this month's data publications, the **United Kingdom** is now reflected as a separate country from the **European Union** in USDA PSD database. Under Brexit, the United Kingdom officially completed its separation from the European Union as of January 1, 2021. The change to USDA statistics has been made for the years 2016/17 through 2020/21 and is also featured in the newly-released 2021/22 statistics. For the impacted years, trade between the United Kingdom and the European Union is now considered external trade.

Beginning with 2015/16 data, bulgur trade is now included as one of the wheat products calculated in global wheat trade. Bulgur is represented by Harmonized System (HS) code 190430. With this addition, wheat trade statistics now include wheat (1001), flour (1101), bulgur (190430), and selected pasta products (190219, 190230, and 190240) on a grain-equivalent basis (all wheat flour and products are multiplied by 1.368). **Turkey** is the dominant supplier of this product, with major destinations being primarily in the Middle East region. Turkey's exports of bulgur in trade year 2019/20 were approximately 308,000 MT (about 420,785 MT on a grain equivalent basis). Note that while this product is a new addition to the global trade statistics, bulgur was already included in the list of 10-digit HS codes used to calculate **U.S.** trade.

Suggested Citation

Bond, Jennifer K. and Andrew Sowell. *Wheat Outlook*, WHS-21e, U.S. Department of Agriculture, Economic Research Service, May 14, 2021.

Use of commercial and trade names does not imply approval or constitute endorsement by USDA.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.