



United States Department of Agriculture

Economic
Research
Service

Situation and
Outlook

WHS-16j

October 14,
2016

Wheat Outlook

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U.S. Production and Domestic Use Lowered, Netting Increase for 2016/17 Carryout

Wheat Chart
Gallery will be
updated on
October 14, 2016.

The next release is
November 11,
2016.

Approved by the
World Agricultural
Outlook Board.

U.S. all-wheat production for 2016/17 is trimmed nearly 11 million bushels this month to 2,310 million but remains the largest crop since 2008/09. Feed and residual use is lowered 70 million bushels after the September 30 *Grain Stocks* report indicated lower-than-expected June-August disappearance. Exports are lifted by 25 million bushels to 975 million based on the pace of sales to date. Lower production marginally offsets net reductions in total wheat use. Ending stocks are raised by 38 million bushels to 1,138 million, the largest carryout projection since 1987/88. Higher-than-expected National Agricultural Statistics Service (NASS) wheat prices to date support a 10-cent-per-bushel increase in the 2016/17 wheat season average price, now projected at \$3.70 per bushel.

Projected 2016/17 record world-wheat production is slightly reduced this month. Foreign wheat output is virtually unchanged, with an additional decline in the European Union (EU) almost offset by higher projected wheat production in Canada and Australia. Global wheat exports are projected higher and are now ahead of last year's record. U.S. wheat export prospects are increased.

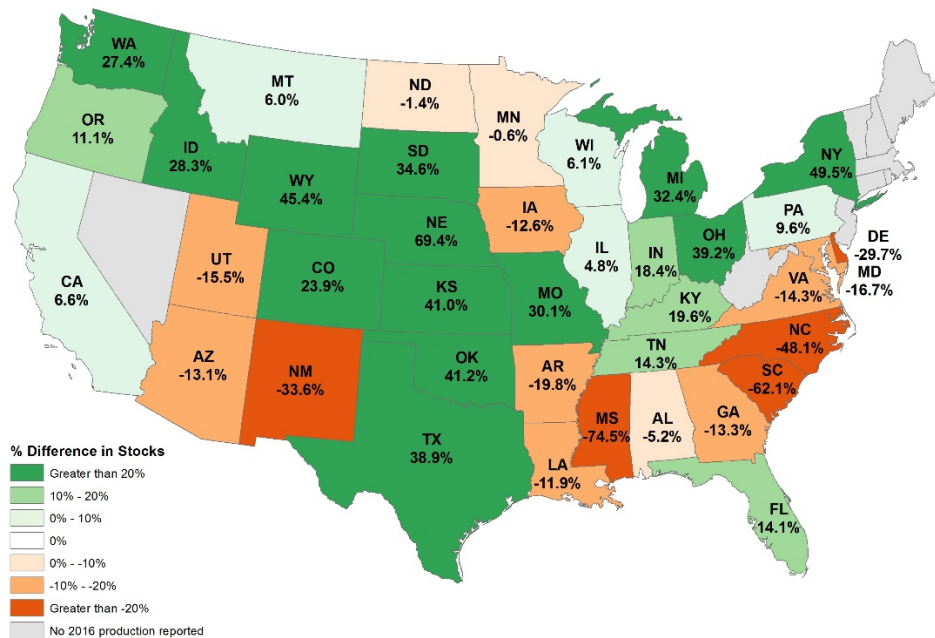
Domestic Outlook

Key NASS Reports Point to Many Balance Sheet Updates

The September 30 release of USDA, NASS’s *Small Grains Annual Summary* report provided revised production estimates for winter, other spring, and durum wheat. All-wheat production is projected down 10.9 million bushels from the previous forecast and is now estimated at 2,309 million bushels for 2016. Despite the reduction, the 2016 U.S. wheat crop remains the largest since 2008, when 2,511 million bushels were harvested. By-class production revisions are reflected in this month’s USDA *World Agricultural Supply and Demand Estimates* (WASDE) with additional details provided below.

The *Grain Stocks* report indicates lower-than-expected June-August disappearance, with the majority of States experiencing year-to-year increases in September 1 all-wheat stocks (Map 1). A substantial number of States report stocks increases in excess of 20 percent relative to 2015 levels. The September stocks report provides evidence that the pace of domestic wheat use is sluggish relative to expectations. In fact, calculated domestic use is lower for the the first quarter of the current marketing year than for the same period in 2015/16, despite larger production. With weakened price competitiveness and improved export prospects, a substantial, 70-million-bushel, downward revision to the feed and residual use category is supported.

Map 1 - Percent difference in September 1 stocks, all positions, 2016 vs. 2015



Source: USDA, National Agricultural Statistics Service, QuickStats Database.

Exports are raised 25 million bushels to 975 million this month on the stronger-than-expected pace of hard red winter (HRW) and hard red spring (HRS) sales through August. Significant first-quarter imports of soft red winter (SRW) wheat, a key quick bread, cake, and cracker ingredient, help to lift the all-wheat import category by 10 million bushels to 125 million. A marginal revision to 2015/16 all-wheat ending stocks reduces 2016/17 carry-in by nearly 6 million bushels, and net total supply is reduced by close to 7 million bushels. With reduced feed and residual use somewhat offset by expanded exports, total use is revised downward by 45 million bushels. The combined effect of reductions to supply and use boosts ending stocks, up nearly 40 million bushels from the

September forecast to 1,138 million bushels. Projected 2016 HRW ending stocks are expected to reach 601 million bushels, a reflection of the sheer size of the crop, as well as the dual effects of lower protein levels and abundant corn and global wheat supplies, which limit marketing opportunities. In contrast, ending stocks of HRS wheat are forecast just above 200 million bushels, 24 percent lower than in 2015. Demand for high-quality wheat, as reflected in observed premiums for high-protein grain along with improved export prospects help to lift the season average price by 10 cents this month to a midpoint of \$3.60 per bushel.

Winter Wheat

Revised NASS projections peg aggregate winter wheat production at 1,671 million bushels for 2016, a 22 percent or 296.8 million bushel increase from 2015. Rising aggregate winter production is nearly wholly attributable to a 33.6 million bushel upward revision to the HRW production estimate from the previous NASS estimate, released in August. In contrast, SRW production is lowered nearly 27 million bushels from the previous estimate, to 345 million, and is now 14 million bushels lower than the 2015/16 SRW crop.

While HRW benefited from tremendous yields and near-ideal growing conditions, cultivation conditions in SRW-growing regions were mixed. The U.S. Wheat Associates’ *2016 Soft Red Winter Wheat Quality Survey* report indicates that Gulf Port States experienced generally very good growing conditions, which led to high test weights, while Eastern States dealt with excessive moisture that lead to lower test weights. As is the case with HRW, protein levels for the 2016 SRW crop are below 2015 levels and are estimated at 9.4 percent. The final Plains Grains, Inc., HRW harvest summary indicates average protein levels of 11.2 percent, down from 12.3 percent in 2015.

Winter white wheat categories are projected up year-to-year: hard white winter (HWW) is projected at 25.5 million bushels, a near 60 percent increase from the 2015 estimate. Soft white winter (SWW) is raised to 219.1 million bushels, up from 169.0 million harvested in 2015. Aggregate white winter wheat production for 2016 is forecast at 244.6 million bushels, up more than 7 million bushels from the previous estimate and up 59 million bushels from 2015.

2016	HRW	SRW
Harvested area (million acres)	21.863	4.977
Yield (bushels/acre)	49.5	69.4
Production (million bushels)	1,081.7	345.2
2016	HWW	SWW
Harvested area (million acres)	0.402	2.889
Yield (bushels/acre)	63.4	75.9
Production (million bushels)	25.5	219.1

Durum

In the *Small Grains Annual Summary*, NASS raised the previous 2016 durum production forecast by more than 12 million bushels to 104.1 million. This volume is more than 20 million bushels above the 2015 estimated production of 84 million bushels. Expanded production is attributable to increased harvested area, up nearly 400,000 acres in 2016 and largely based on expanded plantings in North Dakota and Montana. In North Dakota, by far the largest durum-producing State, production is up 37 percent from 2015. North Dakota is projected to harvest 1.440 million acres, up from 1.075 million acres harvested in 2015. Despite reports of extremely wet soils from significant rainfall in August and September in the northeastern and western parts of the State, 2016 durum yields for North Dakota are projected at 40.5 and compare to the estimated 2015 yield of 39.5 bushels per acre. Gains in North Dakota and Montana help to lift aggregate 2016 U.S. production despite a slight 0.3-bushel-per-acre dip in average yield relative to the 2015 figure.

2016	Durum
Harvested area (million acres)	2.365
Yield (bushels/acre)	44.0
Production (million bushels)	104.1

Other Spring Wheat

Estimated 2016 production of other spring wheat is projected at 534.027 million bushels, down nearly 70 million bushels from the 2015 estimate of 603.2 million bushels. NASS trimmed HRS production by nearly 38 million bushels from the August estimate. Now projected at 493.1 million bushels, HRS production for 2016 is 13 percent lower than in 2015. HRS, which typically has higher protein levels than HRW, is expected to be used in greater proportions in flour blends in 2016/17 to balance lower-than-average HRW protein levels. Further, first-quarter HRS exports significantly exceeded expectations and helped to lift the annual export projection by 10 million bushels. The resulting combination of expanded total use for HRS has reduced the year-to-year ending stocks projections to just above 200 million bushels.

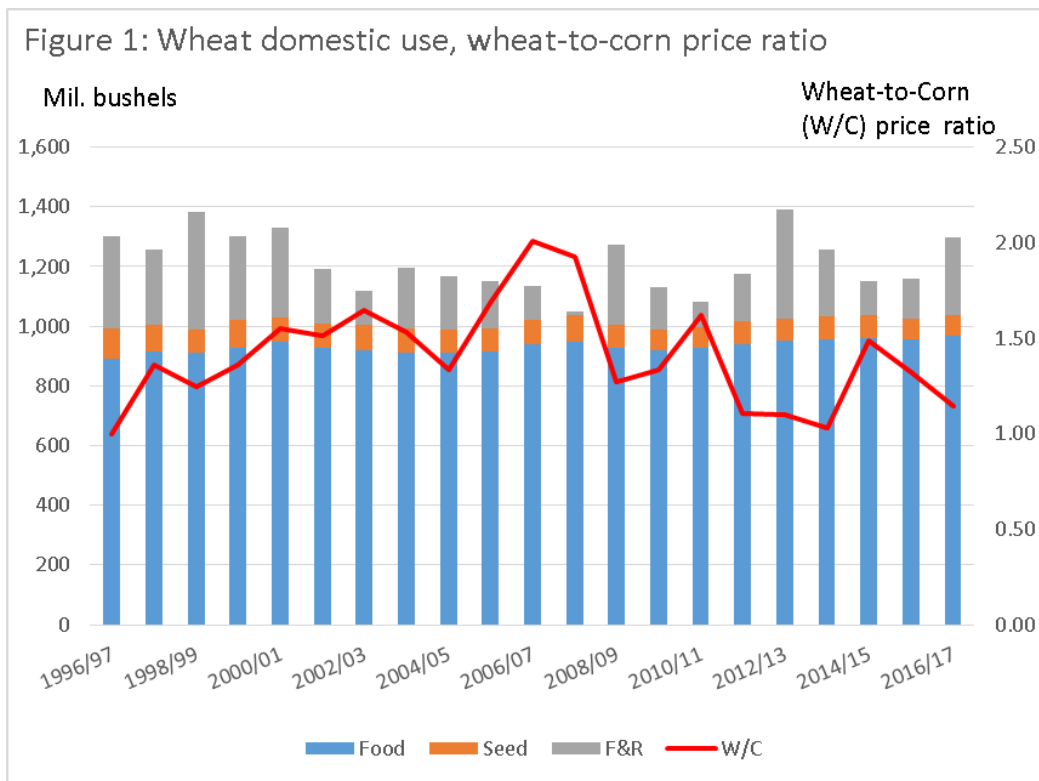
2016	HRS
Harvested area (million acres)	10.666
Yield (bushels/acre)	46.2
Production (million bushels)	493.1

2016	HWS	SWS
Harvested area (million acres)	0.088	0.549
Yield (bushels/acre)	85.7	60.8
Production (million bushels)	7.5	33.4

2015/16 and 2016/16 Balance Sheet Updates

The release of NASS's *Small Grains Summary* and *Grain Stocks* reports precipitated a number of changes to both the 2015/16 and 2016/17 wheat supply and demand balance sheets. Revised production estimates for the current and back year augmented supply forecasts for nearly every grain class. Newly released U.S. Census data, now available through August, replaced previous trend-based estimates and resulted in boosts to both imports and exports. USDA-NASS published revised fourth quarter 2015/16 and first quarter 2016/17 stocks estimates, resulting in carry-in shifts for the new marketing year and reconsideration of domestic use. Wheat domestic use over time and layered with the wheat-to-corn price ratio, which largely affects the feed and residual category, is detailed in figure 1.

First-quarter disappearance data was made available in the recent stocks report and informed feed and residual-use modifications, detailed earlier in this newsletter. It is important to note that the feed and residual forecast is not strictly based on expectations of wheat use for animal feed. The residual component of the wheat balance-sheet element is essential to balancing supply and utilization estimates, and the figure becomes clearer with each subsequent stocks report. The September 1 stocks report indicated first quarter use was lower than projected. With seed and food-use projection estimates accounting for a relatively constant (figure 1) volume of wheat, variations in disappearance are largely charged to the feed and residual category and exports. U.S. Census Bureau export sales data for June through August revealed emergent trade patterns that suggested revisions to import and exports figures and helped to identify which proportion of implied disappearance is attributable to export sales and feed and residual use.



Starting with the back year, 2015/16 production is increased by 10.2 million bushels to 2,052 million, on expanded planted and harvested area projections for all classes of expected SRW wheat. Seed use adjustments across the quarters and classes result in a net 1.14-million-bushel reduction. Revised fourth-quarter stocks bring a reduction of 5.561 million bushels to HRW ending stocks and a slight, 51,000-bushel reduction in durum carry-out. The net effect of the supply, stocks, and seed use adjustments are shifts in the feed and residual figures for all-wheat classes. In aggregate, annual all-wheat feed and residual is increased by 16.9 million bushels for 2015/16. The revised historical table for 2015/16 is now available on the USDA ERS wheat data page and includes class and quarterly estimates.

Modifications to 2015/16 carryout are reflected in the 2016/17 balance sheet as reduced beginning stocks, now projected at near 976 million bushels. U.S. Census trade data for the first quarter boost SRW purchases by 10.5 million bushels though August and lift the annual SRW import projection to 30 million bushels. Aggregate wheat imports are raised 10 million bushels to 125 million on stronger-than-anticipated imports of both white wheat and SRW, despite reduced imports of durum and HRS.

Approximately 33 percent of 2016/17 supplies are expected to be carried out into the next marketing year; this proportion is above the 5-year average of near 26 percent and in line with the 33 percent of supplies carried out of the 2015/16 marketing year. Notably, carryout for the 2016/17 HRW crop, noted for its relatively low protein content, is raised above 600 million bushels this month. Expanded feed-wheat export opportunities, lower absolute and relative prices, and reduced incentives to carry wheat have the potential to lower the forecast carryout, now projected at nearly double the 5-year average of 322 million bushels.

All-Wheat Price Raised 10 Cents

In recent weeks, wheat prices have rallied, particularly for high-protein wheat. Newly available data for August indicates month-to-month growth in marketing, including above-average (5-year) marketings of HRW and white wheat varieties. These factors provide support of a 10-cent increase in the 2016/17 season-average farm price,

now projected at a midpoint 2016/17 of \$3.70 per bushel with a range of \$3.50 to \$3.90. Following a 5-cent increase in the 2016/17 season-average corn price, the corresponding wheat-to-corn price ratio is raised from 1.13 in September to 1.14 for October.

International Outlook

World Wheat Production Slightly Reduced as EU Output Downgraded Further

World wheat production in 2016/17 is forecast at 744.4 million tons, down 0.4 million this month, though still 9.4 million tons ahead of last year's record. Despite a small reduction in projected U.S. wheat output this month, U.S. production is still 6.7 million tons ahead of last year. Foreign wheat production is projected just marginally down by 0.1 million tons this month, also still 2.7 million tons ahead of last year's record.

Wheat production forecasts have been revised for several countries this month, and all the revisions continue the trends established in previous months. See specific country changes with brief explanations in table A.

Table A - Wheat production at a glance (2016/17), October 2016

	Country or region	Crop year	Production	Change ¹	Comments
			<i>Million tons</i>		
↑	World		744.4	-0.4	A slight reduction in record-high world wheat production, up 9.4 million tons compared to previous record of 2015/16.
↑	Foreign		681.6	-0.1	
↓	United States	<i>June-May</i>	62.9	-0.3	See section on U.S. domestic wheat.
↑	Canada	<i>Aug-July</i>	31.5	+1.0	Excellent crop conditions supported by the model-based estimates issued by Statistics Canada in a report titled "Principal Field Crop Estimates" on September 20. Those estimates replace a traditional September Farm Survey.
↑	Australia	<i>Oct-Sep</i>	28.3	+0.8	The increase is based on remarkably high yield forecasts for all Australian States based on both satellite imagery and on the State analysis of "analog years" conditions and yields. A slightly higher wheat area reported by ABARES added to production increase. Excessively wet conditions in eastern Australia in September are expected to somewhat affect the quality of the crop.
↑	Brazil	<i>Oct-Sep</i>	6.3	+0.3	Based on higher-than-expected yields in Parana, where 50 percent of wheat has been already harvested (the State produces half of Brazilian crop); recent CONAB report also indicated higher expected yield.
↓	European Union	<i>July-June</i>	143.2	-2.0	Additional harvest results in several countries of the region suggest a further decline in production estimates that are not offset by higher projections for other countries. The damage in France from excessive untimely rains and adverse weather turned out to be much worse than expected, down an additional 1.5 million tons to 29.7 million. Forecasts for Germany, Benelux countries, Spain, and Romania are also lowered. Partly offsetting is an increase in Italy. Projected yield is the lowest in four years (since 2012/13).
↓	Morocco	<i>June-May</i>	2.7	-0.1	Based on the latest government estimate; the crop has been already harvested.
↓	South Africa	<i>Oct-Sep</i>	1.7	-0.1	Based on latest publication of the South African Crop Estimates Committee (CEC).

¹Change from previous month.

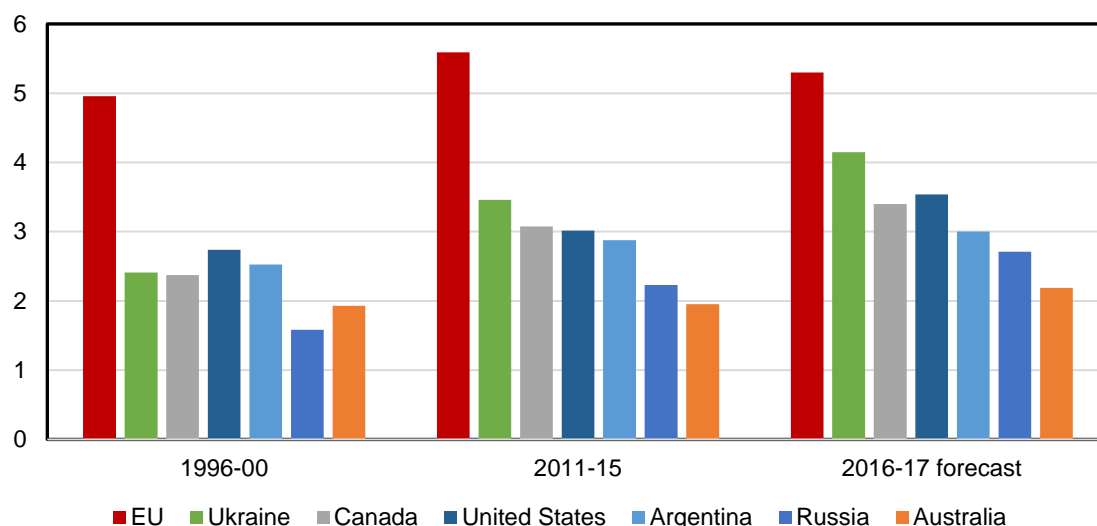
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.

In our September report, we discussed expected lower quality in the 2016 wheat harvest (see <http://usda.mannlib.cornell.edu/usda/current/WHS/WHS-09-14-2016.pdf>). Weather conditions during September in many countries signaled further reduction in projected wheat quality, as recently occurred in Australia (floods in the east and frosts in the west of the country), and before that for late-harvesting Canadian wheat (excessive rain). In Russia, wheat quality has also been reported lower than last year. However, the potential quality issues for these countries had no effect on wheat yields; on the contrary, these countries are expected to have record or close-to-record yields. A big exception is the European Union (EU), where both wheat production and quality are projected to be noticeably reduced this year.

Despite a big reduction in wheat yield this year, the EU continues as the highest wheat-yielding region in the world, followed by Ukraine, though in the past the EU was followed by the United States (fig. 2).

Figure 2
Dynamics of wheat yields for major exporters over 20 years, 1996-2016

Tons per hectare *(Average annual values over 5-year periods)*



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

The rate of wheat yield growth differs greatly among countries, from a very low growth rate in Australia, to modest growth in the United States, EU, and Argentina, to much higher growth in Canada, and to a blistering pace in Russia and Ukraine. In 1996-00, wheat yields in the United States were in second place after Europe, while by 2011-15 Ukrainian and Canadian yields became higher on annual average, such that Ukraine surpassed the United States and now firmly holds second place. Russian yields have also been increasing quickly, and the country has moved ahead of Australia. See figure 3 for the annual yield growth rate for the major wheat exporters from 1996-00 to 2011-15 (calculated as the percent increase in the average annual yield in 2011-15 compared to the average annual yield in 1996-00).

Figure 3: Wheat yield growth rates, by country from 1996-2000 to 2011-15

Country	EU	Ukraine	US	Canada	Argentina	Russia	Australia
<i>Percent change</i>	<i>13</i>	<i>44</i>	<i>10</i>	<i>30</i>	<i>14</i>	<i>41</i>	<i>1</i>

Source: Calculations based on the above-mentioned source: USDA, FAS, PS&D online database.

Figure 2 also makes clear how unusual the current 2016/17 year is. EU yield is much lower than its trend, but the region is still the world leader; U.S. yields are much higher than the country's previous record, while all other countries are at their record yield level or are very close to it.

As higher quality wheat supplies are expected to decline and as the premiums for higher protein grades of wheat are growing, feed quality and lower grades of wheat are abundant and are currently priced very competitively to corn. It is expected that livestock producers will benefit from historically low feed grain prices and from competition within the feed segment of the grain market.

Wheat Feed Use Projected Lower This Month

Despite the current attractiveness of wheat feeding, global feed and residual use for 2016/17 is projected down this month by 3.1 million tons. However, it is still 8.2 million tons, 6 percent higher than in 2015/16. The declines are led by the United States (see domestic section), the EU, and Ukraine. See specific country changes in wheat feed use with brief explanations in table B. Food, seed, and industrial use is raised further this month by 1.7 million tons, led by India, which is expected to use 1.0 million more tons of wheat as its imports grow.












Table B - Wheat feed and residual use at a glance (2016/17), October 2016

	Country or region	Feed and residual	Change ¹	Comments
		<i>Million tons</i>		
↓	World	144.9	-3.1	Decline in feeding in two large wheat-feeding countries: the EU and the United States.
↓	Foreign	137.9	-1.2	
↓	United States	7.1	-1.9	See section on domestic U.S. wheat.
↓	European Union	58.0	-1.0	Lower wheat supplies curb wheat feeding, and even with lower supplies wheat is still priced competitively vis-à-vis corn for feeding, though the difference in prices is becoming slight.
↓	Ukraine	4.0	-0.5	With low stocks and export prices still competitive, the country is expected to lower feeding in favor of exporting more wheat.
↓	Egypt	1.4	-0.1	Lower projected wheat imports, and an assumption that a distribution system that discourages using wheat loafs for feeding animals, will eventually produce visible results.
↑	Canada	4.0	+0.2	Reported reduction in wheat quality in Alberta and Saskatchewan is expected to make more wheat available for feeding.
↑	Brazil	0.5	+0.2	Increased supplies of wheat; wheat is priced competitively for feeding.
¹ Change from previous month.				
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.				

Wheat Stocks Slightly Down

As world wheat beginning stocks for 2016/17 are projected lower by 0.7 million tons this month, wheat production is marginally reduced and consumption is projected lower (but not enough to offset lower wheat supplies), global ending stocks are down 0.7 million tons to 248.4 million.

Multiple changes in stocks are made this month as a result of specific countries' production and trade revisions. At-a-glance information on this month's changes in wheat ending stocks is presented in table C.

Table C - Wheat ending stocks at a glance (2016/17), October 2016				
	Country or region	End stocks	Change¹	Comments
		<i>Million tons</i>		
	World	248.4	-0.7	World wheat ending stocks are projected to decline slightly. They are still record-high and are currently projected up 8.2 million tons on the year.
	Foreign	217.4	-1.7	
	United States	31.0	+1.0	See section on domestic U.S. wheat.
	European Union	10.5	- 1.5	Lower wheat supplies (both wheat output and beginning stocks are projected lower) are only partly offset by a reduction in exports and feed use.
	Australia	6.8	- 0.2	Increase in projected wheat output for 2016/17 is more than offset by higher exports.
	Egypt	4.2	- 0.5	Lower projected supplies (beginning stocks and imports) are only partly offset by lower feeding.
	Kenya	0.3	- 0.2	The country's data were revised for the past several years.
	Mexico	0.4	- 0.2	Lower beginning stocks, while higher imports fully offset increased exports.
	Canada	6.0	+0.3	Higher wheat supplies are partly offset by higher projected exports and feeding.
	Brazil	1.8	+0.3	Increase in projected wheat supplies should generate larger growth in consumption.
	Ethiopia	0.5	+0.2	Higher beginning stocks.
¹ Change from previous month. Smaller changes are made for a number of countries.				
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.				

World Wheat Trade Up and Ahead of Last Year's Record

Projected 2016/17 world wheat trade for July-June international trade year is up 1.7 million tons to 173.5 million this month, and is now expected to be above last year's record. Export prospects for 2016/17 for a number of countries are revised to reflect changes in wheat supplies, policies, and competitiveness.

Increased production and declining prices in Australia boost its exports for a second month in a row, up 1.0 million tons to 20.5 million. Higher wheat output for Canada supports its higher projected exports. Strong export sales and changes in EU policy justify an increase in Ukrainian wheat exports. Reduced production results in lower EU exports, down 1.0 million tons this month to 25.0 million.

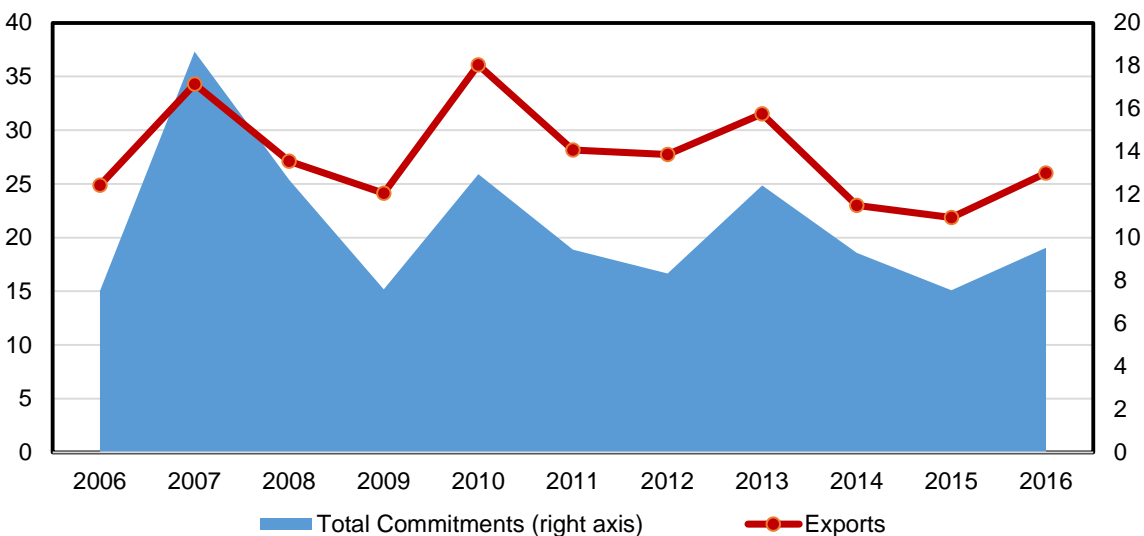
India, which has already imported significant amounts of wheat, is projected to import 3.0 million tons of wheat in 2016/17, up 1.0 million tons from the previous projection. Brazil is also projected to import an additional 0.5 million tons of wheat, while Egyptian wheat imports are slightly reduced.

The U.S. wheat export forecast for the 2016/17 international trade year (July-June) is projected 0.5 million tons higher this month, in light of a very strong first quarter of the season, with total commitments up 22 percent year-to-year (commitments at the start of October consist of July-August census plus September inspections plus outstanding sales for September 29).

Figure 4

U.S. 2006-16 wheat exports versus commitments at the beginning of October

Million tons



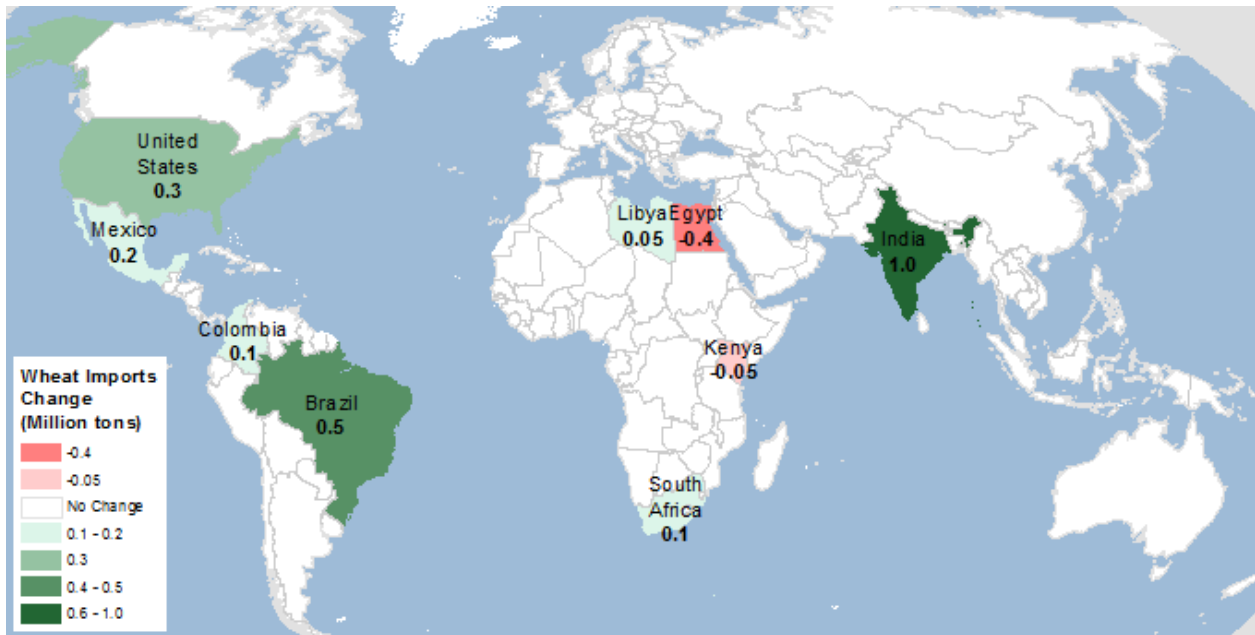
Source: USDA, Foreign Agricultural Service, Global Agricultural Trade System (GATS), U.S. Export Sales.

For at-a-glance information on this month's changes in wheat trade with country-specific details, see table D; and for all changes in imports, including the smaller ones, see map D below.

Table D - Wheat trade at a glance (2016/17), October 2016

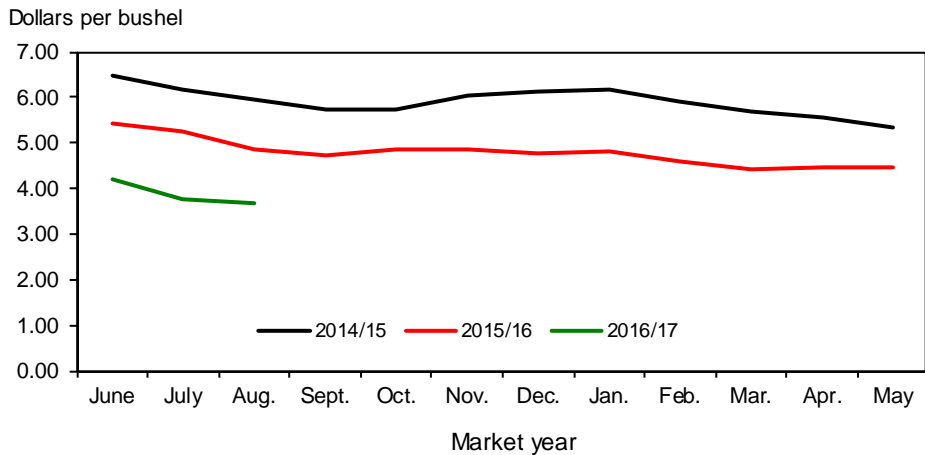
	Country or region	Trade	Change ¹	Comments
		<i>Million tons</i>		<i>July-June international trade year</i>
↑	World	173.5	+1.7	
↑	Foreign	147.5	+1.2	
Wheat Exports (2016/17)				
↑	United States	26.0	+0.5	Very strong start of the season, with wheat exports to new destinations (Morocco and Algeria), as well as increased exports to Brazil.
↑	Australia	20.5	+1.0	Higher projected wheat output, ample exportable supplies, and declining domestic prices make Australia highly competitive. In addition to its traditional exports of milling wheat, Australia is expected to supply more wheat to India (lower import duties), and to countries of Southeast Asia, partly replacing Argentina.
↑	Ukraine	15.5	+0.5	Strong wheat export shipment pace; European Union announced additional quotas for Ukrainian wheat; a recent sale of 0.4 million tons of wheat to India.
↑	Canada	21.5	+0.5	Higher projected wheat output.
↑	Mexico	1.5	+0.2	With many countries having quality issues with wheat harvest, Mexico is becoming more competitive in the durum segment of world trade.
↓	European Union	25.0	-1.0	A further cut in wheat output in a number of countries, but mainly in France and Germany—the two major wheat exporters of the EU region.
Wheat Imports (2016/17)				
↑	United States	3.4	+0.3	Wheat imports from Canada increased sharply in August, getting close to the pace in 2013/14 imports (3.4 mmt). There were additional unexpected imports of wheat from France.
↑	India	3.0	+1.0	As Indian "buffer stocks" of wheat are getting uncomfortably low, keeping domestic prices at the highest level in 2 years, the Government reduced wheat import duties from 25 to 10 percent, making importing wheat attractive for millers. India has already imported non-trivial amounts of wheat from Australia and France, and signed contracts with Ukraine.
↑	Brazil	6.3	+0.5	Record-high wheat imports in the first quarter of the trade year (July-September). Imports are coming mostly from Argentina, but also from the United States, Paraguay, Uruguay, and Canada.
↓	Egypt	11.8	-0.4	The government canceled the requirement that imported wheat have zero percent of ergot. Although after dropping this restriction the government has been trying to make up for lost imports, the initial fall in imports from the no-ergot requirement is expected to lower the final volume of wheat imported. Another consideration is that the new Egyptian system that discourages using wheat loafs for feeding animals will eventually produce visible results and reduce the country's demand for wheat.
¹ Change from previous month. Smaller changes for wheat imports are made for a number of countries, see map D.				
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.				

Map D – Wheat imports changes for 2016/17, October 2016



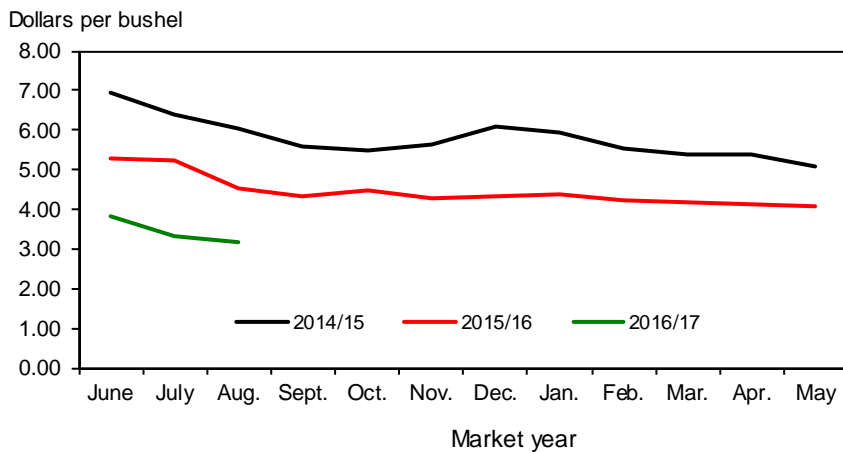
Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution database.

Figure 1
All wheat average prices received by farmers



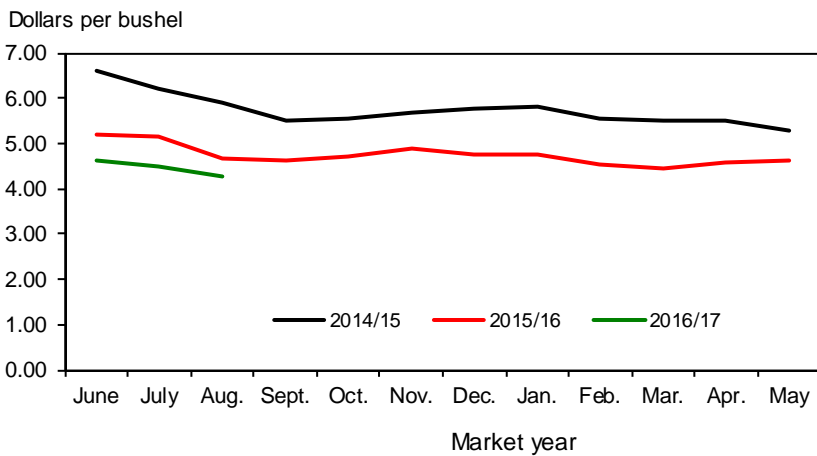
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 2
Hard red winter wheat average prices received by farmers



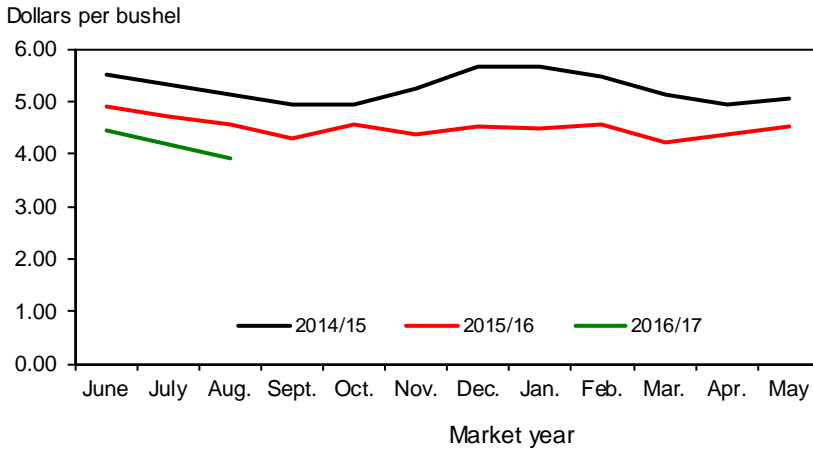
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 3
Hard red spring wheat average prices received by farmers



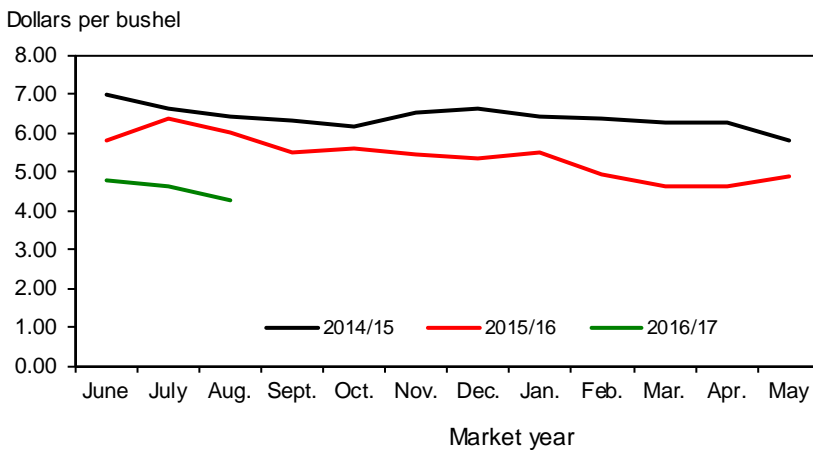
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 4
Soft red winter wheat average prices received by farmers



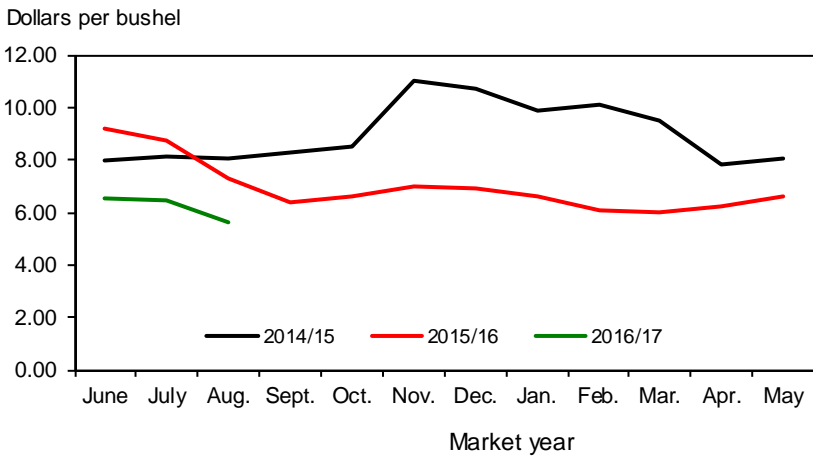
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 5
Soft white wheat average prices received by farmers



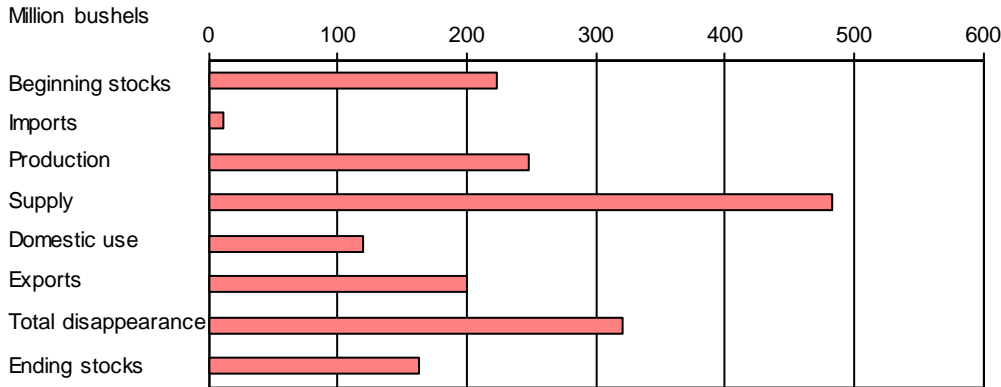
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 6
Durum wheat average prices received by farmers



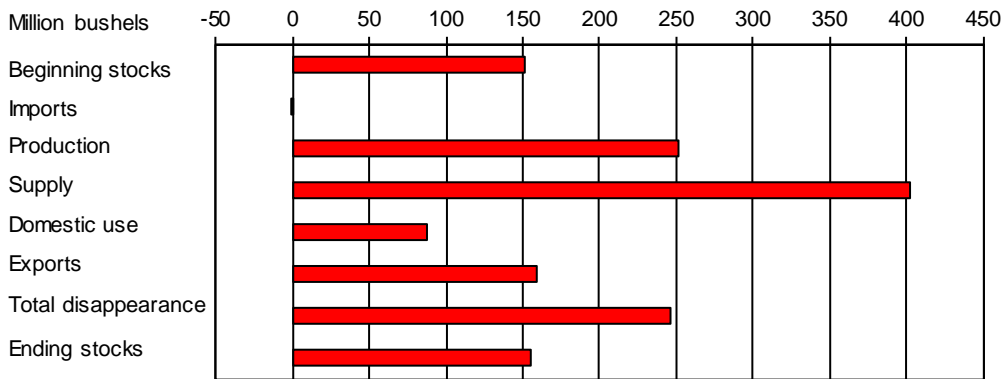
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 7
All wheat: U.S. supply and disappearance change from prior market year



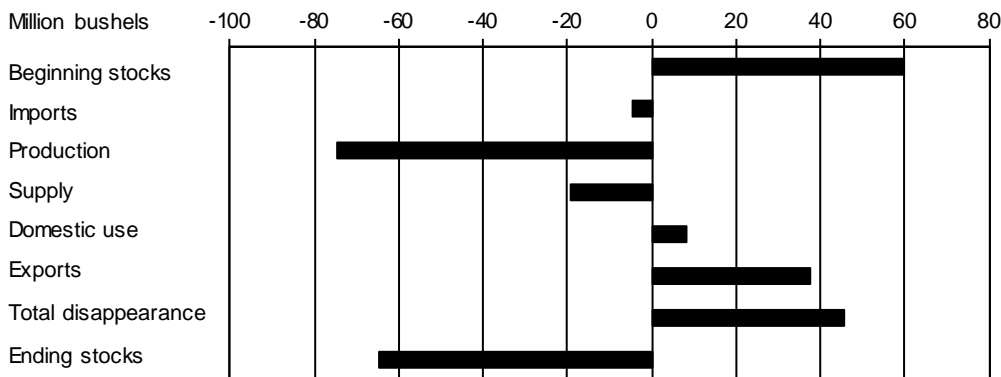
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

Figure 8
Hard red winter wheat: U.S. supply and disappearance change from prior market year



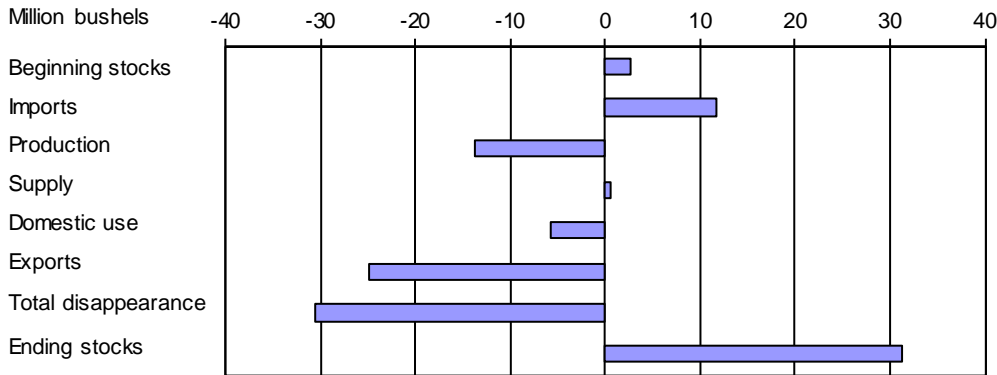
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

Figure 9
Hard red spring wheat: U.S. supply and disappearance change from prior market year



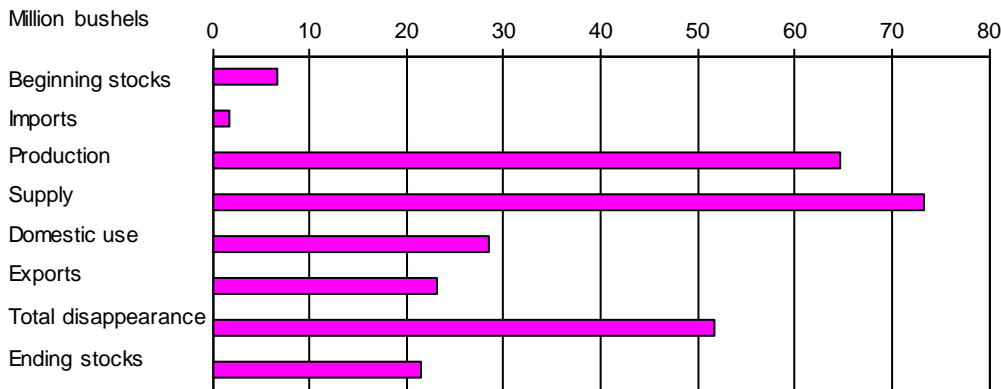
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

Figure 10
Soft red winter wheat: U.S. supply and disappearance change from prior market year



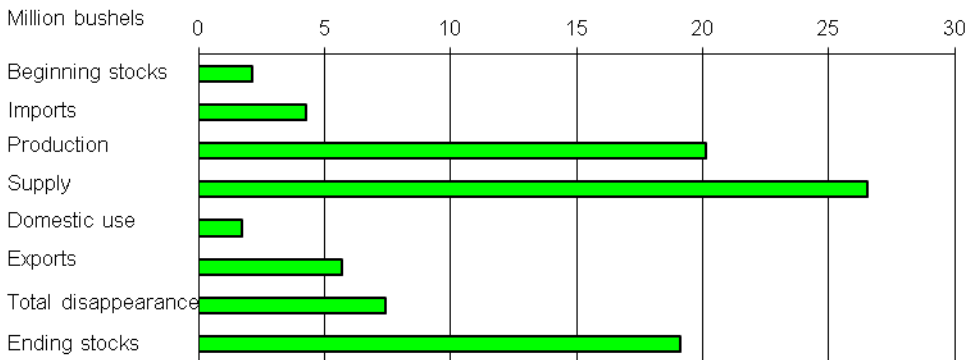
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

Figure 11
White wheat: U.S. supply and disappearance change from prior market year



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

Figure 12
Durum: U.S. supply and disappearance change from prior market year



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

Table 1--Wheat: U.S. market year supply and disappearance, 10/14/2016

Item and unit		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Area:								
Planted	Million acres	52.6	54.3	55.3	56.2	56.8	55.0	50.2
Harvested	Million acres	46.9	45.7	48.8	45.3	46.4	47.3	43.9
Yield	Bushels per acre	46.1	43.6	46.2	47.1	43.7	43.6	52.6
Supply:								
Beginning stocks	Million bushels	975.6	863.0	742.6	717.9	590.3	752.4	975.7
Production	Million bushels	2,163.0	1,993.1	2,252.3	2,135.0	2,026.3	2,061.9	2,309.7
Imports ¹	Million bushels	96.9	113.1	124.3	172.5	151.3	112.9	125.0
Total supply	Million bushels	3,235.6	2,969.2	3,119.2	3,025.3	2,767.9	2,927.2	3,410.4
Disappearance:								
Food use	Million bushels	925.6	941.4	950.8	955.1	958.2	957.4	968.0
Seed use	Million bushels	70.7	75.6	73.1	77.0	79.4	67.2	69.0
Feed and residual use	Million bushels	84.8	158.5	365.3	226.7	113.7	151.9	260.0
Total domestic use	Million bushels	1,081.1	1,175.5	1,389.3	1,258.8	1,151.3	1,176.5	1,297.0
Exports ¹	Million bushels	1,291.4	1,051.1	1,012.1	1,176.2	864.1	775.1	975.0
Total disappearance	Million bushels	2,372.6	2,226.6	2,401.4	2,435.1	2,015.5	1,951.6	2,272.0
Ending stocks	Million bushels	863.0	742.6	717.9	590.3	752.4	975.7	1,138.4
Stocks-to-use ratio		36.4	33.4	29.9	24.2	37.3	50.0	50.1
Loan rate	Dollars per bushel	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Contract/direct payment rate	Dollars per bushel	0.52	0.52	0.52	0.52			
Farm price ²	Dollars per bushel	5.70	7.24	7.77	6.87	5.99	4.89	3.50-3.90
Market value of production	Million dollars	12,579	14,269	17,383	14,604	11,915	10,203	8,546

Latest market year is projected; previous market year is estimated. Totals may not add due to rounding.

¹ Includes flour and selected other products expressed in grain-equivalent bushels.

² U.S. season-average price based on monthly prices weighted by monthly marketings. Prices do not include an allowance for loans outstanding and government purchases.

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

Date run: 10/14/2016

Table 2--Wheat by class: U.S. market year supply and disappearance, 10/14/2016

Market year, item, and unit		All wheat	Hard red winter ¹	Hard red spring ¹	Soft red winter ¹	White ¹	Durum	
2015/16	Area:							
	Planted acreage	Million acres	55.00	29.17	12.62	7.09	4.16	1.95
	Harvested acreage	Million acres	47.32	23.22	12.33	5.89	3.96	1.91
	Yield	Bushels per acre	43.58	35.77	46.03	60.92	55.70	43.96
	Supply:							
	Beginning stocks	Million bushels	752.39	293.74	212.00	154.00	67.00	25.66
	Production	Million bushels	2,061.94	830.45	567.64	359.05	220.79	84.01
	Imports ²	Million bushels	112.91	6.20	48.55	18.24	6.18	33.73
	Total supply	Million bushels	2,927.25	1,130.38	828.19	531.30	293.98	143.40
	Disappearance:							
	Food use	Million bushels	957.40	391.29	251.00	153.00	83.00	79.11
	Seed use	Million bushels	67.19	29.69	16.67	11.70	5.50	3.64
	Feed and residual use	Million bushels	151.89	37.33	36.09	89.97	-15.01	3.52
	Total domestic use	Million bushels	1,176.48	458.31	303.75	254.67	73.49	86.27
	Exports ²	Million bushels	775.08	226.46	252.47	120.00	146.81	29.33
	Total disappearance	Million bushels	1,951.56	684.77	556.22	374.67	220.30	115.60
	Ending stocks	Million bushels	975.69	445.62	271.97	156.63	73.68	27.80
2016/17	Area:							
	Planted acreage	Million acres	49.65	26.59	10.95	6.02	4.19	2.41
	Harvested acreage	Million acres	43.89	21.86	10.67	4.98	4.02	2.37
	Yield	Bushels per acre	52.62	49.48	46.23	69.37	71.04	44.02
	Supply:							
	Beginning stocks	Million bushels	975.69	445.62	271.97	156.63	73.68	27.80
	Production	Million bushels	2,309.68	1,081.69	493.13	345.23	285.51	104.12
	Imports ²	Million bushels	125.00	5.00	44.00	30.00	8.00	38.00
	Total supply	Million bushels	3,410.36	1,532.31	809.09	531.86	367.19	169.92
	Disappearance:							
	Food use	Million bushels	968.00	365.00	277.00	155.00	86.00	85.00
	Seed use	Million bushels	69.00	31.00	15.00	14.00	6.00	3.00
	Feed and residual use	Million bushels	260.00	150.00	20.00	80.00	10.00	.00
	Total domestic use	Million bushels	1,297.00	546.00	312.00	249.00	102.00	88.00
	Exports ²	Million bushels	975.00	385.00	290.00	95.00	170.00	35.00
	Total disappearance	Million bushels	2,272.00	931.00	602.00	344.00	272.00	123.00
	Ending stocks	Million bushels	1,138.36	601.31	207.09	187.86	95.19	46.92

Latest market year is projected; previous market year is estimated. Totals may not add due to rounding.

¹ Area and yield data are unpublished National Agricultural Statistics Service data. Supply and disappearance data, except production, are approximations.

² Includes flour and selected other products expressed in grain-equivalent bushels.

Source: USDA, National Agricultural Statistics Service, Crop Production and unpublished data; and USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* and supporting materials.

Date run: 10/14/2016

Table 3--Wheat: U.S. quarterly supply and disappearance (million bushels), 10/14/2016

Market year and quarter		Production	Imports ¹	Total supply	Food use	Seed use	Feed and residual use	Exports ¹	Ending stocks
2008/09	Jun-Aug	2,512	28	2,845	236	1	405	345	1,858
	Sep-Nov		28	1,886	238	54	-124	295	1,422
	Dec-Feb		36	1,458	219	1	28	170	1,040
	Mar-May		35	1,075	233	21	-41	206	657
	Mkt. year	2,512	127	2,945	927	78	268	1,015	657
2009/10	Jun-Aug	2,209	28	2,893	231	1	251	200	2,209
	Sep-Nov		24	2,234	237	44	-81	252	1,782
	Dec-Feb		30	1,812	222	1	31	201	1,356
	Mar-May		37	1,393	229	21	-59	227	976
	Mkt. year	2,209	119	2,984	919	68	142	879	976
2010/11	Jun-Aug	2,163	27	3,166	235	1	215	265	2,450
	Sep-Nov		24	2,473	242	51	-63	311	1,933
	Dec-Feb		23	1,956	221	1		308	1,425
	Mar-May		22	1,448	228	16	-67	407	863
	Mkt. year	2,163	97	3,236	926	71	85	1,291	863
2011/12	Jun-Aug	1,993	21	2,877	230	5	201	295	2,147
	Sep-Nov		32	2,179	244	51	-16	238	1,663
	Dec-Feb		30	1,693	231	1	44	217	1,199
	Mar-May		30	1,229	236	19	-70	301	743
	Mkt. year	1,993	113	2,969	941	76	159	1,051	743
2012/13	Jun-Aug	2,252	26	3,020	238	1	403	264	2,115
	Sep-Nov		33	2,148	247	55	-22	198	1,671
	Dec-Feb		35	1,705	229	1	5	235	1,235
	Mar-May		31	1,266	238	15	-20	315	718
	Mkt. year	2,252	124	3,119	951	73	365	1,012	718
2013/14	Jun-Aug	2,135	36	2,889	235	4	422	358	1,870
	Sep-Nov		48	1,918	249	53	-168	309	1,475
	Dec-Feb		42	1,517	231	2	-1	228	1,057
	Mar-May		47	1,104	240	18	-27	282	590
	Mkt. year	2,135	172	3,025	955	77	227	1,176	590
2014/15	Jun-Aug	2,026	44	2,661	239	6	256	253	1,907
	Sep-Nov		35	1,942	248	49	-93	208	1,530
	Dec-Feb		37	1,566	231	2	8	185	1,140
	Mar-May		36	1,176	240	22	-58	219	752
	Mkt. year	2,026	151	2,768	958	79	114	864	752
2015/16	Jun-Aug	2,062	27	2,841	240	1	298	205	2,097
	Sep-Nov		27	2,124	249	45	-108	192	1,746
	Dec-Feb		34	1,781	230	1	-1	179	1,372
	Mar-May		25	1,397	239	20	-37	199	976
	Mkt. year	2,062	113	2,927	957	67	152	775	976
2016/17	Jun-Aug	2,310	33	3,318	242	2	280	267	2,527
	Mkt. year	2,310	125	3,410	968	69	260	975	1,138

Latest market year is projected; previous market year is estimated. Totals may not add due to rounding.

¹ Includes flour and selected other products expressed in grain-equivalent bushels.

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

Date run: 10/14/2016

Table 4--Wheat: Monthly food disappearance estimates (1,000 grain-equivalent bushels), 10/14/2016

Mkt year and month 1/	Wheat ground for flour	+	Food imports ²	+	Nonmilled food use ³	-	Food exports ²	=	Food use ¹
2014/15	Jun	74,070		2,740		2,000		1,760	77,050
	Jul	74,244		3,035		2,000		1,866	77,413
	Aug	81,143		2,853		2,000		1,541	84,455
	Sep	78,025		2,507		2,000		1,812	80,720
	Oct	82,617		2,941		2,000		1,825	85,733
	Nov	79,077		2,731		2,000		2,075	81,734
	Dec	74,226		2,908		2,000		1,625	77,509
	Jan	73,996		2,815		2,000		1,661	77,150
	Feb	73,409		2,614		2,000		1,824	76,198
	Mar	77,884		3,024		2,000		2,183	80,725
	Apr	75,805		2,889		2,000		1,681	79,012
	May	77,507		2,948		2,000		1,847	80,609
2015/16	Jun	74,155		3,374		2,000		1,760	77,769
	Jul	74,749		2,992		2,000		1,850	77,891
	Aug	81,695		2,786		2,000		1,889	84,592
	Sep	78,556		2,771		2,000		1,928	81,399
	Oct	82,604		2,861		2,000		2,119	85,346
	Nov	79,065		2,994		2,000		2,050	82,009
	Dec	74,215		2,873		2,000		2,118	76,969
	Jan	73,643		2,770		2,000		2,026	76,386
	Feb	73,058		2,756		2,000		1,655	76,159
	Mar	77,511		2,851		2,000		2,146	80,216
	Apr	74,909		4,207		2,000		1,771	79,345
	May	76,592		2,836		2,000		2,023	79,405
2016/17	Jun	73,279		2,934		2,000		2,137	76,076
	Jul			2,642		2,000		1,666	2,976
	Aug			3,196				1,856	1,340

¹ Current year is preliminary. Previous year is preliminary through August of current year, estimated afterwards.

² Food imports and exports used to calculate total food use. Includes all categories of wheat flour, semolina, bulgur, and couscous and selected categories of pasta.

³ Wheat prepared for food use by processes other than milling.

□ Estimated food use equals wheat ground for flour plus food imports plus nonmilled food use minus food exports. See <http://www.ers.usda.gov/Briefing/Wheat/wheatfooduse.htm> for more information.

Source: Data through the 2nd quarter of 2011 was calculated using data from U.S. Department of Commerce, Bureau of the Census' Flour Milling Products (MQ311A) and U.S. Department of Commerce, Bureau of Economic Analysis' Foreign Trade Statistics. Subsequent flour milling calculations are based on data from the North American Millers Association.

Date run: 10/14/2016

Table 5--Wheat: National average price received by farmers (dollars per bushel) , 10/14/2016

Month	All wheat		Winter		Durum		Other spring	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
June	5.42	4.20	5.20	3.97	9.16	6.50	5.20	4.61
July	5.23	3.75	5.15	3.56	8.74	6.47	5.15	4.48
August	4.84	3.67	4.80	3.41	7.28	5.59	4.71	4.24
September	4.72		4.64		6.36		4.68	
October	4.86		4.76		6.57		4.78	
November	4.86		4.66		6.97		4.91	
December	4.75		4.57		6.93		4.80	
January	4.82		4.63		6.60		4.81	
February	4.61		4.47		6.08		4.56	
March	4.40		4.28		6.03		4.47	
April	4.46		4.31		6.24		4.55	
May	4.45		4.28		6.57		4.64	

Source: USDA, National Agricultural Statistics Service, Agricultural Prices.

Table 6--Wheat: National average prices received by farmers by class (dollars per bushel), 10/14/2016

Month	Hard red winter		Soft red winter		Hard red spring		White	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
June	5.26	3.84	4.91	4.45	5.18	4.61	5.79	4.75
July	5.21	3.32	4.69	4.16	5.13	4.48	6.34	4.63
August	4.55	3.15	4.54	3.92	4.67	4.25	6.00	4.24
September	4.35		4.31		4.63		5.49	
October	4.46		4.56		4.73		5.57	
November	4.30		4.37		4.88		5.44	
December	4.34		4.52		4.77		5.35	
January	4.37		4.48		4.77		5.48	
February	4.22		4.54		4.54		4.94	
March	4.19		4.21		4.46		4.63	
April	4.13		4.38		4.56		4.62	
May	4.08		4.52		4.62		4.88	

Source: USDA, National Agricultural Statistics Service, Agricultural Prices.

Date run: 10/14/2016

Table 7--Wheat: Average cash grain bids at principal markets, 10/14/2016

Month	No. 1 hard red winter (ordinary protein) Kansas City, MO (dollars per bushel)		No. 1 hard red winter (13% protein) Kansas City, MO (dollars per bushel)		No. 1 hard red winter (ordinary protein) Portland, OR (dollars per bushel)		No. 1 hard red winter (ordinary protein) Texas Gulf, TX ¹ (dollars per metric ton)	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
June	6.40	5.04	6.64	5.54	6.13	5.18	209.81	176.55
July	6.27	4.24	6.36	5.18	5.92	4.66	197.31	151.57
August	5.70	4.15	5.86	5.32	5.44	4.62	179.68	149.18
September	5.44	4.24	5.59	5.36	5.69	4.41	172.70	150.47
October	5.62	--	5.73	--	5.86	--	--	--
November	5.55	--	5.72	--	5.56	--	177.10	--
December	5.60	--	5.79	--	5.46	--	189.60	--
January	5.46	--	5.71	--	5.42	--	193.64	--
February	5.28	--	5.48	--	5.28	--	187.03	--
March	5.34	--	5.53	--	5.33	--	191.43	--
April	5.22	--	5.44	--	5.27	--	187.39	--
May	5.08	--	5.42	--	5.18	--	171.78	--
Month	No. 1 dark northern spring (13% protein) Chicago, IL (dollars per bushel)		No. 1 dark northern spring (14% protein) Chicago, IL (dollars per bushel)		No. 1 dark northern spring (14% protein) Portland, OR (dollars per bushel)		No. 1 hard amber durum Minneapolis, MN (dollars per bushel)	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
June	6.50	--	7.56	--	7.48	6.35	--	--
July	--	--	--	--	6.71	5.82	--	--
August	--	--	--	--	6.10	5.97	--	--
September	--	--	--	--	6.32	5.98	--	--
October	--	--	--	--	6.53	--	--	--
November	--	--	--	--	6.39	--	--	--
December	--	--	--	--	6.34	--	--	--
January	--	--	--	--	6.15	--	--	--
February	--	--	--	--	6.09	--	--	--
March	--	--	--	--	6.11	--	--	--
April	--	--	--	--	6.27	--	--	--
May	--	--	--	--	6.27	--	--	--
Month	No. 2 soft red winter St. Louis, MO (dollars per bushel)		No. 2 soft red winter Chicago, IL (dollars per bushel)		No. 2 soft red winter Toledo, OH (dollars per bushel)		No. 1 soft white Portland, OR (dollars per bushel)	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
June	5.14	4.74	5.17	4.70	5.22	4.69	--	5.46
July	5.08	4.23	5.40	4.12	5.58	4.22	--	5.07
August	4.48	3.90	5.00	3.99	5.20	4.03	5.55	4.89
September	4.28	3.89	4.86	3.76	5.04	3.72	5.38	4.77
October	4.45	--	5.02	--	5.25	--	5.49	--
November	4.41	--	4.98	--	5.16	--	5.37	--
December	4.22	--	4.83	--	4.97	--	--	--
January	4.32	--	4.75	--	4.93	--	5.31	--
February	4.70	--	4.69	--	4.69	--	5.30	--
March	4.74	--	4.70	--	4.61	--	--	--
April	4.79	--	4.71	--	4.63	--	5.33	--
May	4.64	--	4.65	--	4.61	--	5.34	--

-- = Not available or no quote.

¹ Free on board.Source: USDA, Agricultural Marketing Service, State Grain Reports, <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&navID=MarketNewsAndTransportationData&leftNav=MarketNewsAndTransportationData&page=LMarketNewsPa geStateGrainReports>.

Date run: 10/14/2016

Table 8--Wheat: U.S. exports and imports for last 6 months (1,000 bushels), 10/14/2016

Item		Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016
Exports	All wheat grain	63,641	65,598	64,011	85,398	75,502	100,797
	All wheat flour ¹	1,626	1,309	1,464	1,710	1,338	1,401
	All wheat products ²	578	560	593	460	371	496
	Total all wheat	65,846	67,467	66,069	87,567	77,210	102,694
Imports	All wheat grain	5,657	5,203	4,091	5,757	7,078	10,957
	All wheat flour ¹	1,092	2,461	1,200	1,266	1,058	1,339
	All wheat products ²	1,784	1,765	1,658	1,698	1,614	1,892
	Total all wheat	8,534	9,429	6,948	8,721	9,750	14,187

Totals may not add due to rounding.

¹ Expressed in grain-equivalent bushels. Includes meal, groats, and durum.

² Expressed in grain-equivalent bushels. Includes bulgur, couscous, and selected categories of pasta.

Source: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics; and ERS calculations using Census trade statistics.

Date run: 10/14/2016

Table 9--Wheat: U.S. exports, Census and export sales comparison (1,000 metric tons)

Importing country	2014/15		2015/16		2016/17 (as of 10/01/16)		
					Shipments	Out-standing	Total
Data source	Census 1/	Export sales 2/	Census 1/	Export sales 2/	Export sales 2/		
Country:							
China	331	332	609	764	495	0	495
Japan	3,054	3,121	2,499	2,434	815	463	1,277
Mexico	2,842	2,721	2,503	2,318	886	531	1,417
Nigeria	1,790	1,904	1,457	1,401	448	194	642
Philippines	2,376	2,338	2,077	2,118	1,076	514	1,590
Korean Rep.	1,181	1,148	1,093	1,074	406	354	760
Egypt	156	387	99	42	0	0	0
Taiwan	983	1,002	1,129	1,034	438	25	463
Indonesia	691	643	666	608	417	58	475
Venezuela	457	438	252	239	198	0	198
European Union	658	724	831	934	275	13	288
Total grain	22,610	22,622	20,467	19,440	9,663	4,754	14,418
Total (including products)	23,249	22,693	21,117	19,544	9,710	4,782	14,493
USDA forecast of Census				21,094			25,855

¹ Source: U.S. Department of Commerce, U.S. Census Bureau

² Source: USDA, Foreign Agricultural Service, *U.S. Export Sales*.