



Economic
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Service

Situation and
Outlook

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Wheat Outlook

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U.S. 2016/17 Wheat Balance Sheet Unchanged, Price Lowered

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

The next release is
October 14, 2016.

Approved by the
World Agricultural
Outlook Board.

U.S. wheat production is unchanged this month and ahead of the September USDA NASS *Small Grains Annual Summary* and *Grain Stocks* reports. The other spring and durum harvests are drawing to a close; the winter wheat harvest is complete. With the size of the 2016/17 U.S. wheat crop becoming more certain, the evolving market situation supports a 10-cent reduction in the all-wheat price. Now projected at \$3.60 per bushel, the midpoint season average all-wheat prices are the lowest since 2005/06, when farmers received \$3.42 per bushel.

Projected 2016/17 record world-wheat production is increased further this month, despite an additional reduction in European Union (EU) output and a decline in China. Global wheat exports are projected higher and are very close to last year's record. U.S. exports are left unchanged.

Domestic Outlook

All-Wheat Balance Sheet Unchanged, Average Price Lowered 10 Cents

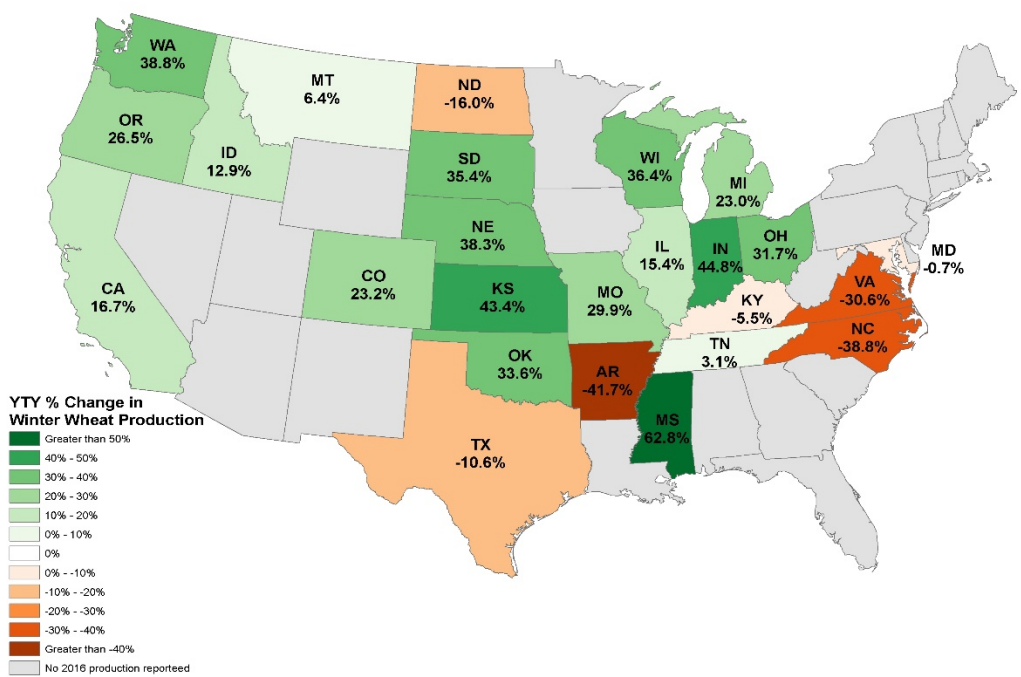
Ahead of the September 30 release of USDA, National Agricultural Statistics Service's (NASS's) *Small Grains* report, the current winter, other spring, and durum wheat production forecasts for 2016 are unchanged. Total supplies and total use are also unchanged, though minor shifts in export projections across classes are made, in accordance with U.S. Census Bureau data and the pace of trade to date and are reflected in both the September Wheat Yearbook and Outlook tables published on the Economic Research Service website. No changes are made to the all-wheat ending stocks this month and ahead of the NASS *Grain Stocks* report, also to be released on September 30. This NASS report provides estimates of on- and off-farm stocks as of September 1, 2016, giving an indication of disappearance during the first quarter of the wheat marketing year (June-August, 2016), and informing potential updates to quarterly feed and residual use and stocks by class.

While the 2016/17 all-wheat balance sheet is largely unchanged this month, market conditions continue to evolve and influence the all-wheat season-average price projection, lowered 10 cents from the August forecast to a midpoint of \$3.60 per bushel. This price is the lowest since 2005/06, when farmers received \$3.42 per bushel. The wheat price decline compares to a 5-cent-per-bushel increase in the season-average corn price. These price changes have the net effect of reducing the wheat-to-corn price ratio.

Winter Wheat

Winter wheat production is unchanged this month and remains at 1.66 billion bushels, nearly 300 million bushels larger than the 2015 estimate (see Map 1). Last month, NASS raised the winter wheat yield 1 bushel per acre to 54.9 bushels. The current projection is 12.4 bushels higher than the 2015/16 yield estimate. Record-high yields are projected for Colorado, Illinois, Indiana, Kansas, Michigan, Missouri, Nebraska, Ohio, Oklahoma, Tennessee, Washington, and Wisconsin.

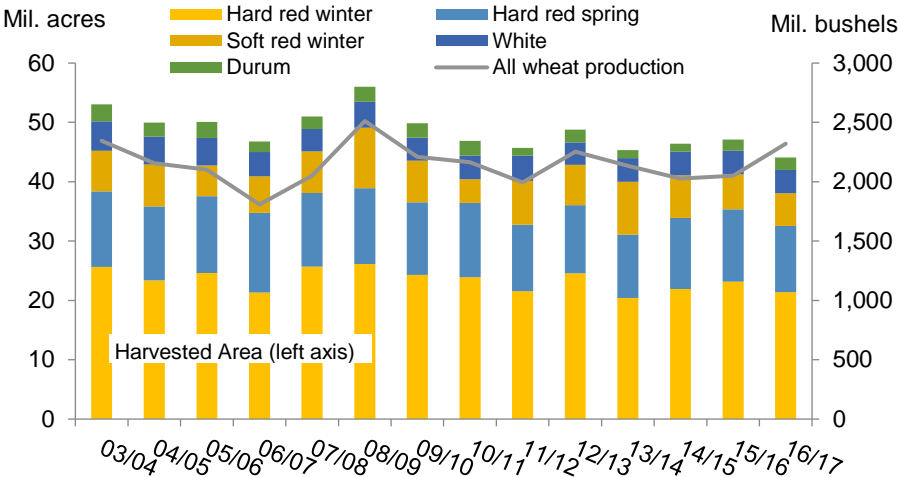
Map 1 - Percent change in winter wheat production, 2016 vs. 2015



Aided by record-high yields, production is up year-to-year in each of the aforementioned States (Map 1). A 43 percent increase in winter wheat production in Kansas is particularly impactful. Forty-four percent of the U.S. winter wheat crop was cultivated in Kansas, equivalent to about 20 percent of all the wheat grown in the United States in 2016. Particularly fertile growing conditions in this State have helped boost aggregate U.S. wheat production by 269 million bushels, despite a 3-million-acre contraction in area harvested (Figure 1).

In early September, the USDA-NASS office in Manhattan, Kansas, released the 2016 *Kansas Wheat Quality* report. This release confirms widespread indications of lower protein levels for the State’s 2016 winter wheat crop. Average protein content is 11.7 percent, down from 12.7 percent in 2015, and below the 10-year average of 12.4 percent. Protein levels are one indicator of overall grain quality and, while protein levels of the largely hard red winter wheat crop in Kansas are below average, the proportion of sampled wheat graded No.1 is up 3 percent from 2015 to 56 percent. Reduced incidence of damaged, shrunken and broken kernels, total defects, and foreign material are noted for the 2016 crop.

Figure 1. U.S. wheat harvested area by class and all-wheat production



Sources: USDA, National Agricultural Statistics Service, QuickStats database and USDA, World Agricultural Outlook Board, World Agricultural Supply and Demand Estimates.

Nationally, all classes of winter wheat are projected to experience growth in volume production in 2016, relative to 2015. Hard red winter (HRW) output is up 221 million bushels to 1,048 million; soft red winter (SRW) is up 13 million bushels to 372 million. Winter white wheat categories are projected up year-to-year: hard white winter (HWW) is up 36.3 percent to 21.7 million bushels and soft white winter (SWW) is raised 28.2 percent to 215.7 million bushels. White winter wheat production for 2016 is forecast to total 237.4 million bushels, up more than 53.2 million from the 2015 estimate.

2016	HRW	SRW
Harvested area (million acres)	21.382	5.502
Yield (bushels/acre)	49.0	67.6
Production (million bushels)	1,048.097	371.943
2016	HWW	SWW
Harvested area (million acres)	0.402	2.889
Yield (bushels/acre)	53.9	74.7
Production (million bushels)	21.694	215.706

On August 14, 2016, NASS reported 97 percent of the 2016/17 white winter wheat crop had been harvested, with 11 of the top 18 winter-wheat producing States indicating that harvest was complete. This pace was 2 percent

ahead of the 5-year average and 2 percent behind the 2015 pace. Subsequent to the week 32 survey, NASS reports only spring harvest progress and condition.

Durum

In August, USDA-NASS raised the 2016 durum yield by 4.3 bushels per acre, a near 11 percent increase from the July projection and a reflection of significant yield increases for North Dakota. No changes to durum production are made this month. The most recent NASS crop condition data for durum relates only to North Dakota where, for the week ending September 11, 79 percent of the crop is rated “good” to “excellent” with 77 percent of the crop harvested. For the same week, 86 percent of Montana’s durum wheat crop has been harvested. The NASS *Small Grains* report will update U.S. durum estimates of area planted and harvested, yields, and production.

2016	Durum
Harvested area (million acres)	2.082
Yield (bushels/acre)	44.1
Production (million bushels)	91.730

Other Spring Wheat

No changes are made to the other spring wheat production this month. In August, the other spring wheat production forecast was raised 4 percent to 571.4 million bushels following a 2-bushel-per-acre increase in the average yield projection. The USDA-NASS other-spring-wheat yield forecast is projected at 48.3 bushels per acre and benefits from expectations of record-high yields in Minnesota and record-tying high yields in Montana.

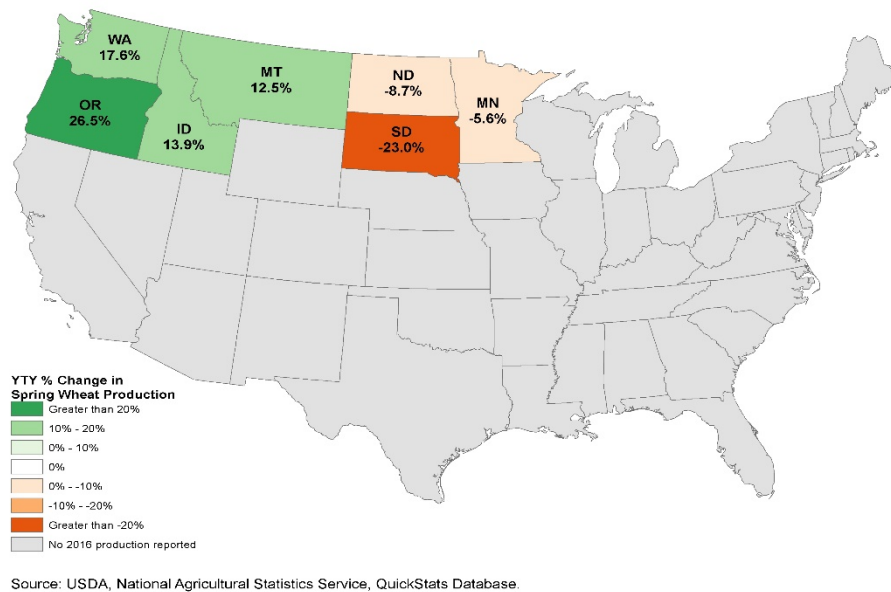
Production of HRS remains at 530.7 million bushels following an upward revision in August. Harvested area is projected to be down year-to-year both in aggregate and in the majority of spring wheat-producing States (Figure 1). This forecast is unchanged from August and remains at 11.8 million acres, a decrease of 9 percent from 2015.

2016	HRS
Harvested area (million acres)	11.162
Yield (bushels/acre)	47.54
Production (million bushels)	530.715

2016	HWS	SWS
Harvested area (million acres)	0.084	0.589
Yield (bushels/acre)	75.1	58.4
Production (million bushels)	6.308	34.392

Other spring wheat production is concentrated primarily in Western and Northern States, including North Dakota, Montana, and South Dakota. Map 2 shows the year-to-year changes in projected production in these and other key spring wheat-producing States. In North Dakota, other spring wheat production is projected by NASS to reach nearly 290 million bushels or 54 percent of the forecast total other spring wheat production. While still commanding a sizable share of total production, the near 9 percent year-to-year decline in production (Map 2) has reduced the proportion of total U.S. other spring wheat harvested in North Dakota by 3 percent. The near 28-million-bushel decline in other-spring-wheat production is offset somewhat by gains in durum production in the State, currently forecast at nearly 8 million bushels above the 2015 estimate.

Map 2 - Percent change in spring wheat production, 2016 vs. 2015



Rail Traffic Reflects Harvest Activity, Large Size of Grain Crops

The accelerating pace of harvest activity for all spring wheat and major grains including corn and soybeans is reflected in U.S. rail traffic figures. For the week ending September 3, 2016 (week 35), the Association of American Railroads reports carloads of grain are up 30.2 percent over the previous week. To date, the number of grain carloads are up 4.9 percent from the same point in time in 2015, partially a reflection of the growth in grain production year-to-year. In August 2016, the average number of weekly rail carloads of grain is reported to be near 24,000. By comparison, the average number of grain-carrying rail carloads in August 2015 is closer to 19,000.

In aggregate, the number of rail carloads for all payloads is down about 5 percent year-to-date, with gains in grain loads being more than offset by declines in coal (down 16.2 percent), forest products (down 6.8 percent), petroleum and products (down 24.4 percent), and other categories.

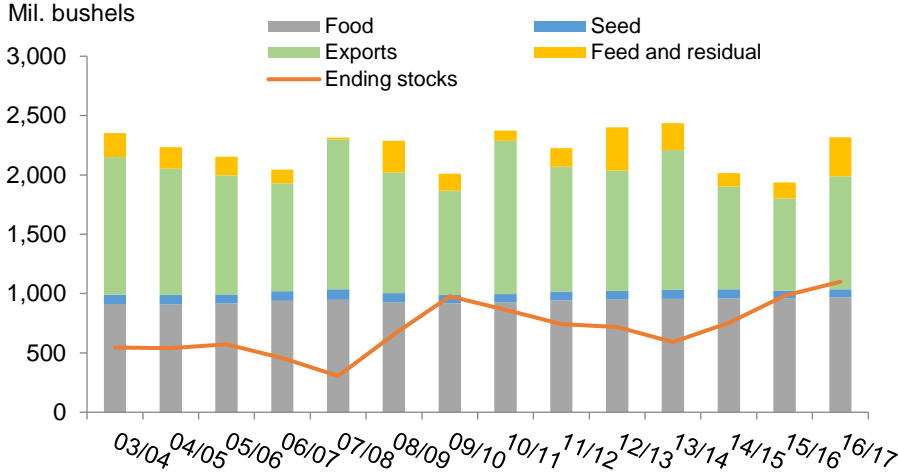
Supply and Demand Estimates Unchanged

The U.S. 2016/17 wheat supply and demand estimates are unchanged from the August projections. NASS will release production revisions for aggregate winter, other spring, and durum wheat categories, as well as, individual wheat classes, in the September 30 *Small Grains* report. Adjustments to the U.S. all-wheat balance sheet will be reflected in the October release of the *World Agricultural Supply and Demand Estimates (WASDE)*. Also on September 30, NASS will publish the latest edition of the *Grain Stocks* report, providing data on first-quarter wheat disappearance and informing potential updates to quarterly stocks and feed and residual use projections.

Figure 2 highlights the relative stability of the food and seed use projections dating from the 2003/04 marketing year to present. The food and seed use categories have fluctuated, on average, by less than 1 percent from year-to-year. The 2016/17 food use projection is slightly more than 1 percent above the 2015/16 estimate. On November 1, the *Flour Milling* report will be released, subsequent revisions to the annual and quarterly wheat food use projections will be reflected in the November *WASDE* and discussed in the corresponding issue of the *Wheat Outlook* newsletter.

In contrast to the relative stability of the food and seed use estimates, the other use categories—feed and residual, and exports--often vary significantly from year-to-year, as do ending stocks. For example, in the 2016/17 marketing year, feed use is up 200 million bushels, or 144 percent over the 2015/16 estimate. Significant growth in this use category is substantiated by relative prices of grains that compete for space in livestock feed rations and lower average-protein levels, which improve the digestibility of winter wheat, in particular.

Figure 2: U.S. wheat total use and ending stocks



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

Like the feed and residual wheat use category, exports can vary greatly from year-to-year and are dependent upon relative prices. In recent year, the U.S. competitiveness in global wheat trade markets has generally diminished and the export volume has trended downward. For the 2016/17 marketing year, however, exports are projected to rebound some, up 175 million bushels from 2015/16, to 950 million. This increase is largely based on projections of lower, more competitive prices for U.S. wheat, though the forecast still pegs 2016/17 exports slightly below the 5-year average volume and well-below the 10-year average export volume of 1,024 million bushels. More details of global wheat markets can be found in the international section of this newsletter.

The endings stocks projection are responsive to complex and interacting market forces and can be quite variable from year-to-year. NASS provides quarterly estimates of grains stocks held on- and off-farm which gives indications of grain disappearance. Total supply for 2016/17 is projected at 3.4 billion bushels, with ending stocks of 1.1 billion. Approximately 32 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 lower than the 34 percent of supplies carried out of the 2015/16 marketing year. Recent projections of higher-than-average carryout proportions are reflective of highly competitive global markets, the compounding effects of sizable carry-in, and reduced marketing opportunities that would otherwise aide in drawing down wheat stocks.

All-Wheat Price Lower 10 Cents

The 2016/17 season average farm price is lowered 5 cents on the low end and 15 cents on the high end of the range, now projected at \$3.30 and \$3.90 per bushel. The mid-point price is \$3.60 per bushel and compares to the 2015/16 mid-point season average wheat price of \$4.89. If the current projection is realized, the all-wheat season average price will be the lowest since 2005/06 when growers received an average of \$3.42 per bushel. Following this month’s slight, 5-cent increase in the 2016/17 season average corn price, the corresponding wheat-to-corn price ratio is lowered from 1.17 in August to 1.13 in September. Lower relative wheat prices increase the competitiveness of the grain for use in feed rations and supports the current feed and residual use projection.

International Outlook

World Wheat Production Record Continues to Grow, EU Output Down Again

World wheat production in 2016/17 is forecast at 744.8 million tons, up 1.4 million tons this month, getting further ahead of last year's record of 734.8 million tons. These developments can be viewed as a continuation of the situation observed in the previous 2 months. While prospects for world wheat output continue to improve bolstered by expected higher wheat production in countries all around the world (see table A), the European Union (EU) wheat production outlook keeps declining as harvest results continue to arrive and confirm significant damage to the crop. The largest reduction is taken for Germany and neighboring Denmark. In contrast, the countries in the east of the EU enjoy excellent growing conditions, and many of them are projected to have record-high yields. See figures A1 and A2 below for this month's and year-to-year changes for specific EU countries.

Figure A1

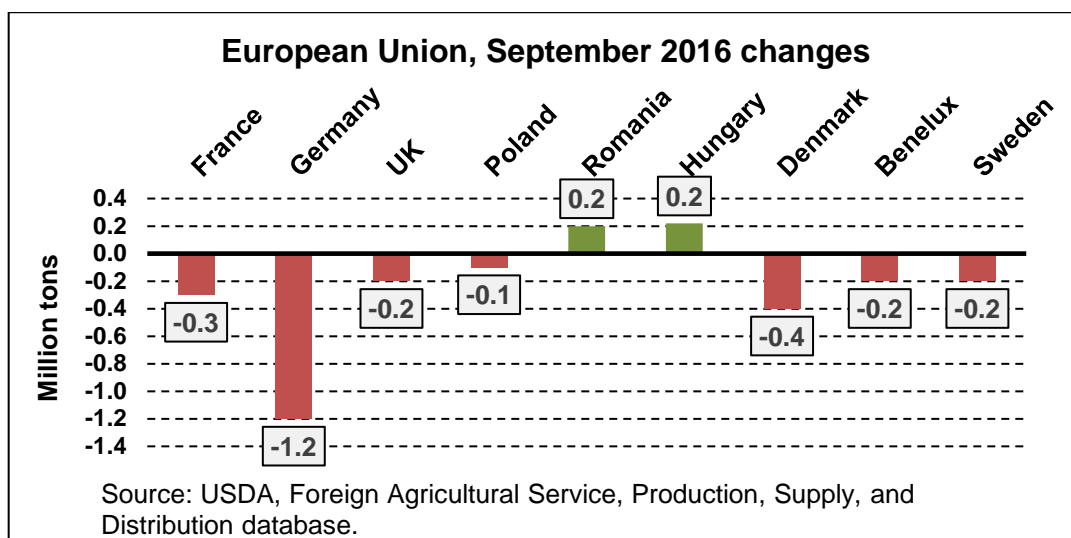
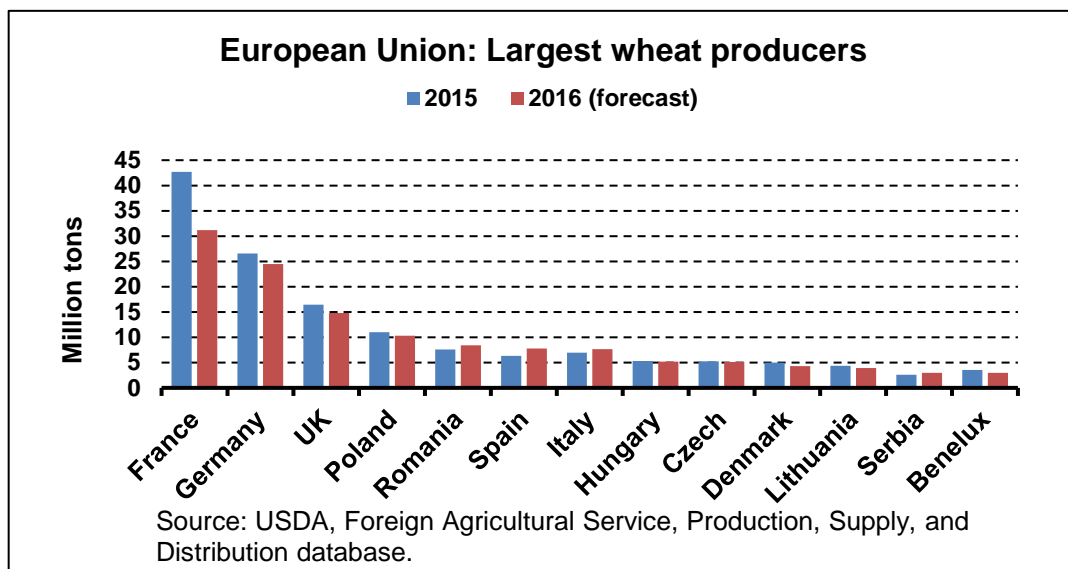


Figure A2

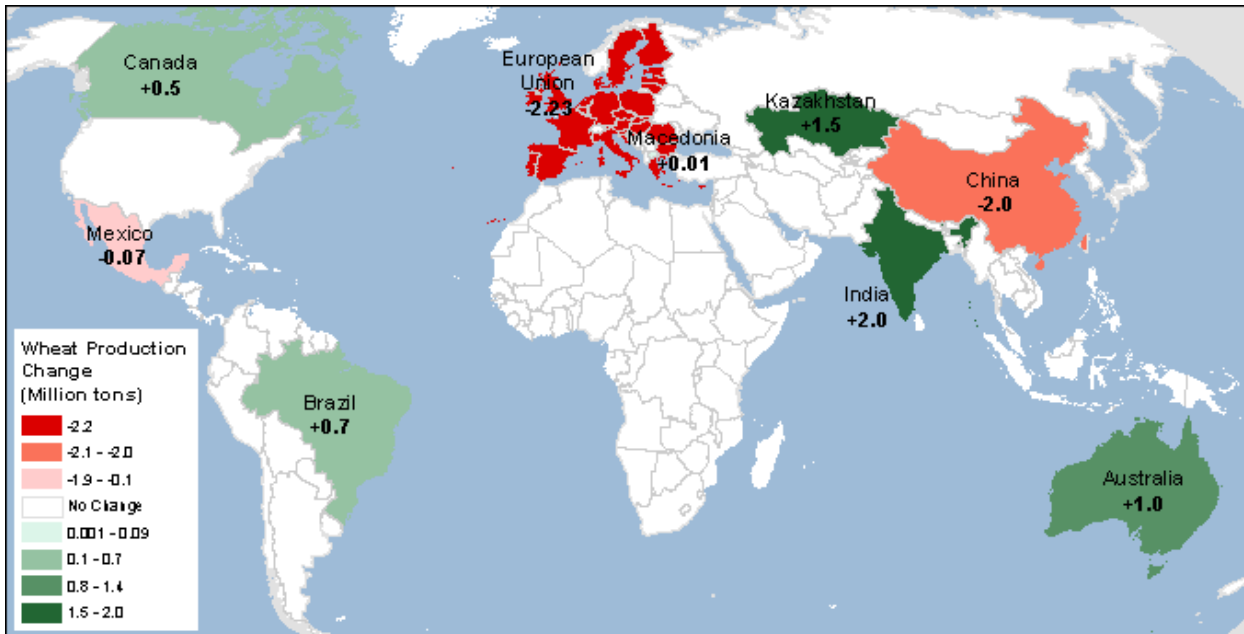


For specific causes for the revisions of this month's changes in wheat production, see table A and map A.

Table A - Wheat production at a glance (2016/17), September 2016					
	Country or region	Crop year	Production	Change ¹	Comments
			<i>Million tons</i>		
↑	World		744.8	+1.4	Record world wheat production is projected to increase further.
↑	Foreign		681.7	+1.4	
	United States	<i>June-May</i>	63.2	No change	See section on U.S. domestic wheat.
↑	India	<i>Apr-Mar</i>	90.0	+2.0	With higher reported area and slightly higher yield, wheat output in India is projected 2.0 million tons higher. Existing evidence of rising domestic prices and higher wheat import demand support a production estimate that is lower than the last preliminary government estimate. Final government report is expected in March 2017.
↑	Kazakhstan	<i>Sep-Aug</i>	16.5	+1.5	Higher area reported by the State Statistical agency. This is the first year-to-year increase in wheat area in Kazakhstan since 2013.
↑	Australia	<i>Oct-Sep</i>	27.5	+1.0	Growing conditions are very favorable; wheat areas in the east of the country have ample soil moisture, though the central part of Western Australia state could use some additional precipitation. Crop is reported to be in good to excellent condition. Harvest is expected to commence in October.
↑	Brazil	<i>Oct-Sep</i>	6.0	+0.7	The anticipated deterioration of weather conditions that usually happens around late August did not materialize. Better weather conditions support higher yield forecast. Crop is in vegetative stage and generally in good shape.
↑	Canada	<i>Aug-July</i>	30.5	+0.5	A report on Production of Principal Field Crops issued by Statistics Canada on August 23, 2016, is based on survey of 13,100 Canadian farms, conducted from July 21 to August 4, 2016.
↓	European Union	<i>July-June</i>	145.3	-2.2	Preliminary wheat 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. As was expected last month, the damage from excessive precipitation did spread over to Germany, Denmark, and the Benelux countries, as well as to Poland (though to a lesser degree). See details for the EU wheat production and changes in figures A1 and A2.
↓	China	<i>July-June</i>	128.0	-2.0	Based on the National Bureau of Statistics (NBS) report on total winter grain.

¹ Change from previous month. Smaller changes of less than 0.2 million tons are made for a number of countries, see map A.
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution Online database.

Map A – Wheat production changes for 2016/17, September 2016



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

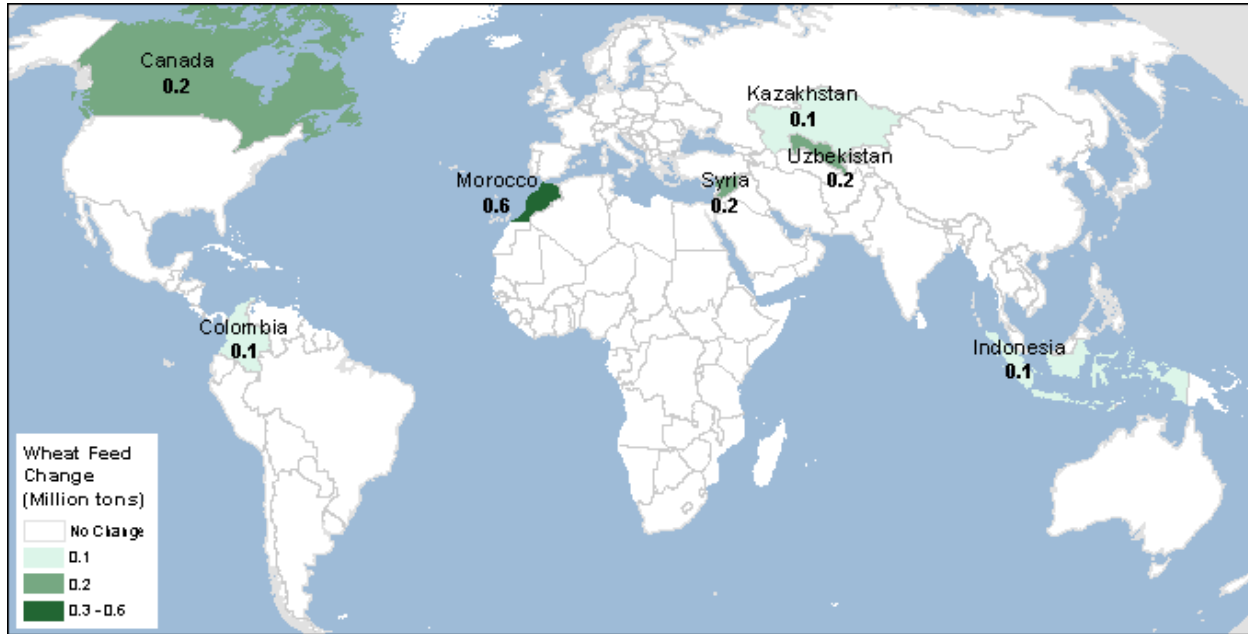
Lower Quality of 2016/17 Wheat Harvest Is Expected

Although abundant precipitation did not miss any of the major wheat producers and exporters, so far only the western part of the European continent suffered the negative impact of excessive rains on wheat yields. While no adverse effects of rain are expected on the output volume in other countries, the quality of wheat in 2016/17 is likely to be much lower than the average of recent years, and last year as well. Intelligence reports about low protein content, low test weights, sprouting, vomitoxin, and uneven quality of the new harvest arrive from many parts of the world. Reports of late rains in Canada, Russia, and even in Australia (New South Wales and Victoria States, where a recent downpour raised crop quality concerns) suggest that sizeable (and in some cases record) crops could have a higher-than-usual share of feed and low-protein wheat. The protein level in the United States is also expected to be lower than average as a consequence of this year's record-high yield (as wheat yield is negatively correlated with quality). For that reason, wheat prices are expected to have an unusually high spread, with quality milling wheat enjoying a higher price premium. Feed wheat prices have been declining, and relative wheat/corn prices favor wheat-over-corn feeding.

Wheat Consumption Is Projected Higher, Stocks Are Down

Global feed and residual use for 2016/17 is forecast up 1.5 million tons this month, while food, seed, and industrial use is raised by 2.4 million tons. The primary increase in food use is for India, up 2.0 million tons to 90.6 million, as increased production is expected to maintain the country's food distribution programs. With higher projected imports, food use is also projected higher in Syria, up 0.4 million tons to 4.0 million (unchanged on the year). At-a-glance information on this month's changes in wheat domestic consumption is presented in map B.

Map B – Wheat feed and residual use changes for 2016/17, September 2016

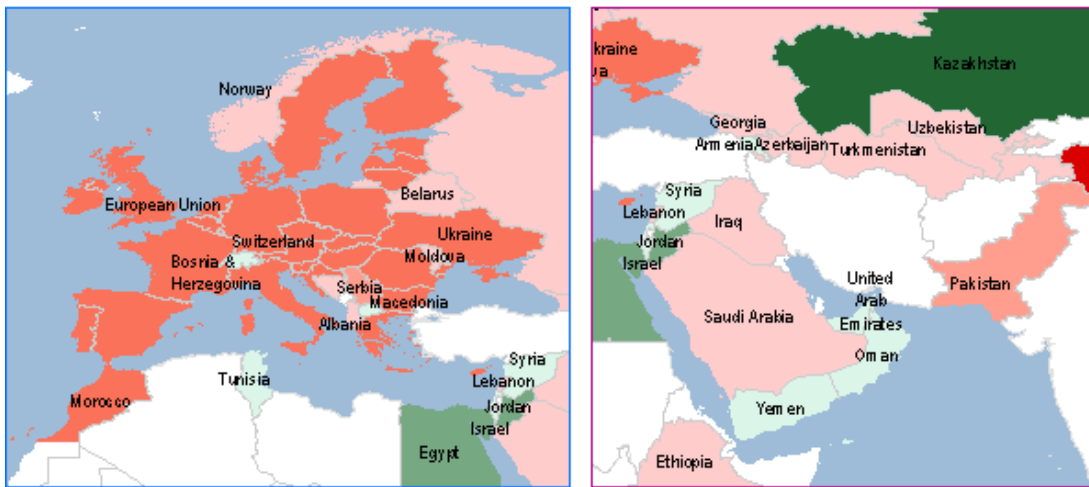
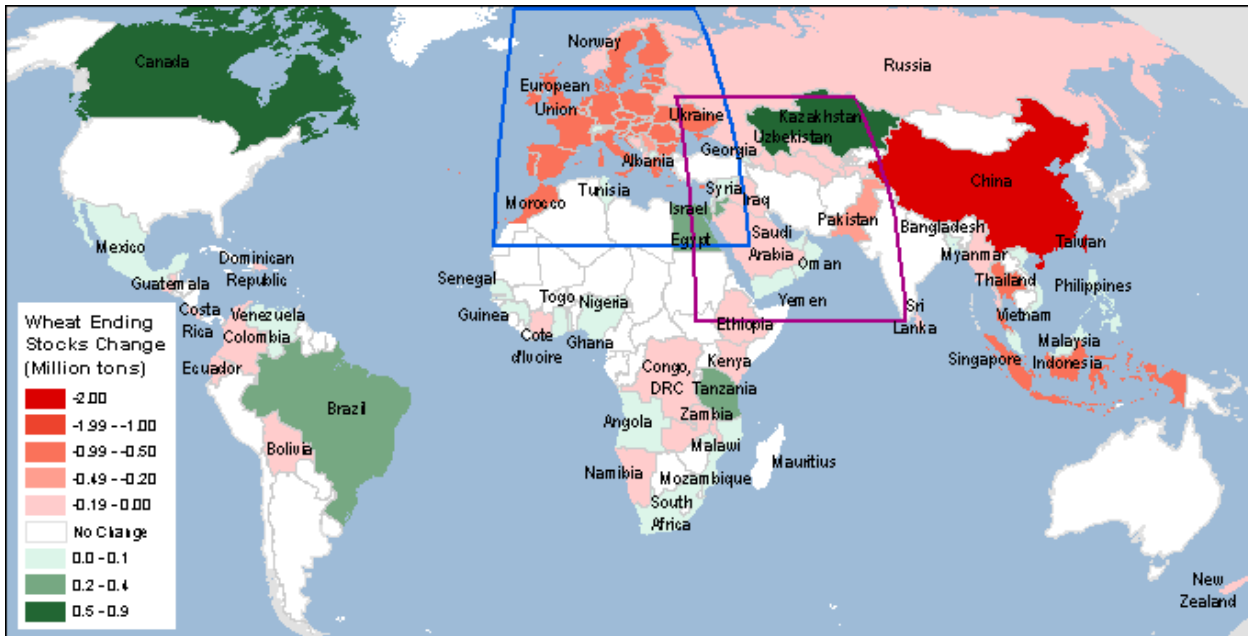


Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution database.

As beginning stocks for 2016/17 are projected lower by 1.0 million tons this month, virtually negating the wheat production increase, with higher projected consumption global ending stocks are down 3.8 million tons to 249.0 million, though they are still the highest on record. Numerous 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 below in table C and map C.

Table C - Wheat ending stocks at a glance (2016/17), September 2016				
	Country or region	End stocks	Change ¹	Comments
		<i>Million tons</i>		
↓	World	249.1	-3.8	World wheat ending stocks are projected to decline slightly. They are still record-high and are currently projected up 10.9 million tons on the year.
↓	Foreign	219.1	-3.8	
	United States	29.9	No change	See section on domestic U.S. wheat.
↓	European Union	12.0	-0.9	Dwindling supplies of wheat are only partly offset by a reduction in exports; see tables A and D.
↓	China	110.7	-2.0	Lower projected wheat output for 2016/17.
↓	Morocco	4.1	-0.9	Lower beginning stocks and higher wheat feeding.
↓	Ukraine	2.1	-0.8	Lower beginning stocks and higher exports; see table D.
↓	Indonesia	1.0	-0.8	Lower wheat imports (government restrictions; see table D) and higher feeding because relative prices favor wheat feeding.
↑	Canada	5.7	+0.9	Higher wheat supplies are slightly offset by higher projected feeding.
↑	Kazakhstan	3.6	+0.9	Increase in projected wheat supplies is larger than export growth; see tables A and D.
¹ Smaller changes are made for a number of countries; see map C.				
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution Online database.				

Map C – Wheat ending stocks changes for 2016/17, September 2016



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

World Wheat Trade Up and Very Close to Last Year's Record

Projected world wheat trade in 2016/17 (July-June international trade year) is up 2.1 million tons to 171.8 million this month and is now on par with last year's record. Record wheat trade for 2015/16 was increased by 1.2 million tons this month to reach 172.0 million, as trade data on the final months of the 2015/16 trade year are finalized.

Export prospects for 2016/17 are adjusted significantly to reflect supply shifts. Increased production and declining prices in Australia boost its exports, up 1.0 million tons to 19.5 million. Asian buyers are reportedly partly shifting to Australia, thereby reducing Black Sea countries' share in the region. Higher output for Ukraine, Kazakhstan, Brazil, and Serbia support higher export projections for these countries. Reduced production results in lower EU exports, down 1.0 million tons this month to 26.0 million.

EU wheat imports are projected 1.0 million tons higher this month, as its wheat output is projected to decline. The region will need more high-quality wheat for blending, especially the countries that rely on imported French or German wheat. In Syria, wheat supplies are running low. Although the situation in Syria is somewhat muddled, there are indications that the country's government is planning to import more (a tender for 1.0 million tons of wheat was recently announced, but then canceled).

The U.S. wheat export forecast for the 2016/17 international trade year (July-June) is left unchanged this month. Though it appears that the price competitiveness of the U.S. exports is gradually increasing, the current sales are still lower than the forecast, and with crops' projections for Australia, Canada, and Kazakhstan getting higher, export competition is getting even stronger this month.

For at-a-glance information and smaller changes, see map D and table D below.

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

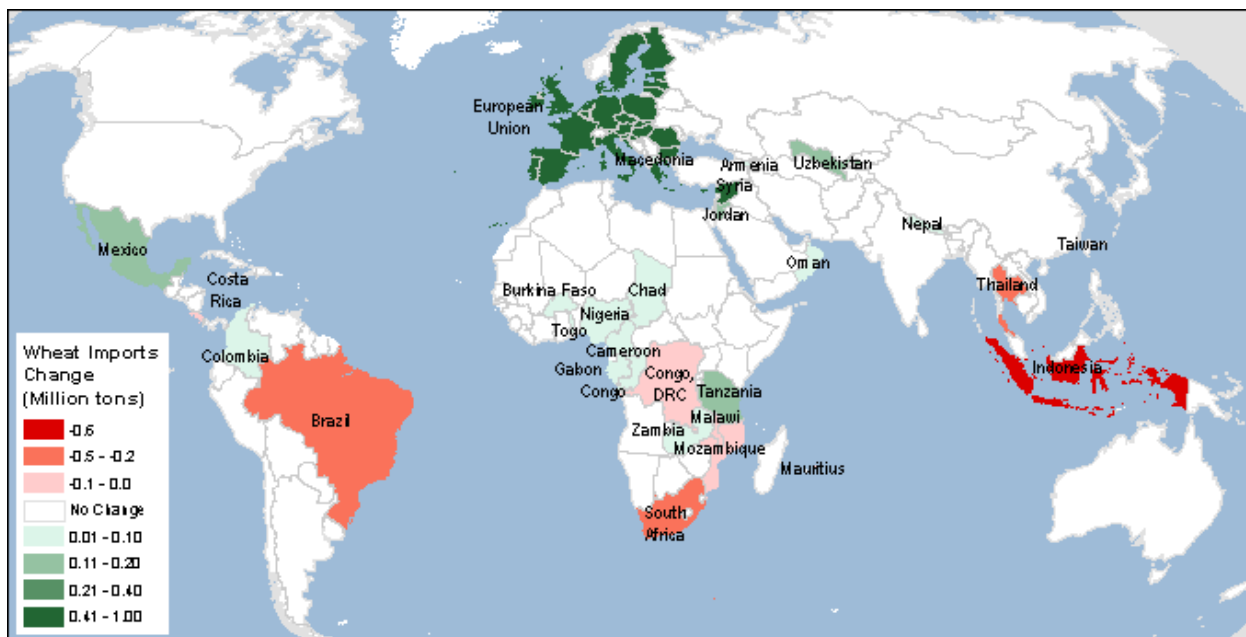


Table D - Wheat trade at a glance (2016/17), September 2016

	Country or region	Trade	Change ¹	Comments
		<i>Million tons</i>		<i>July-June international trade year</i>
↑	World	171.8	+ 2.1	
↑	Foreign	146.4	+2.1	
Wheat Exports (2016/17)				
↑	Australia	19.5	+1.0	Higher projected wheat output and increased price competitiveness. Expected premium for high-quality wheat that is in short supply this year.
↑	Ukraine	15.0	+0.5	High price competitiveness boosted by steep devaluation of currency (hryvnia) in August-September. Strong wheat export shipment pace that is just slightly below last year's record (in 2015/16 Ukraine exported 17.4 million tons of wheat).
↑	Kazakhstan	8.5	+0.5	Higher projected wheat output with yields at a next-to-record high. The landlocked country produces high-protein wheat that is expected to be in high demand this year. Exports to Afghanistan, Iran, China, and several FSU countries (mainly to Russia, Azerbaijan, Georgia, and Uzbekistan).
↑	Brazil	1.5	+0.5	Higher projected wheat output.
↑	Serbia	1.3	+0.3	Ample supplies of high-quality wheat. The country is not an EU member, but its exports will likely end up in the EU.
↑	Pakistan	0.9	+0.2	The government has authorized export subsidies for 0.9 million tons of wheat that could facilitate exports of some extra wheat (on top of usual exports of wheat flour to Afghanistan). The size of the subsidy is not sufficient to make the country competitive vis-a-vis Black Sea exporters.
↓	European Union	26.0	-1.0	A further cut in wheat output in a number of countries, but mainly in Germany—usually the second-largest EU wheat exporter, which this year might overtake France as the largest.
Wheat Imports (2016/17)				
↑	European Union	7.0	+1.0	Reduced wheat output combined with low and uneven quality is expected to require additional imports of higher-quality wheat for blending.
↑	Syria	2.3	+1.0	Despite all the uncertainty, there are signs that the country will import more wheat. A recent tender for 1.0 million tons (though canceled later) is one such indicator. Wheat supplies are running low.
↑	Mexico	4.4	+0.2	Slightly lower production prospects.
↑	Uzbekistan	2.7	+0.2	Higher projected wheat production in Kazakhstan, the main Uzbek supplier of wheat flour.
↓	Indonesia	8.5	-0.6	The government stopped issuing feed wheat import certificates for 2016/17 to stimulate higher usage of domestic corn for feeding, and to attempt to halt imports of competitively priced feed wheat.
↓	South Africa	1.6	-0.3	Increased wheat supplies (beginning stocks boosted by higher 2015/16 imports).
↓	Brazil	5.8	-0.2	Higher wheat output and supplies.

¹Change 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.

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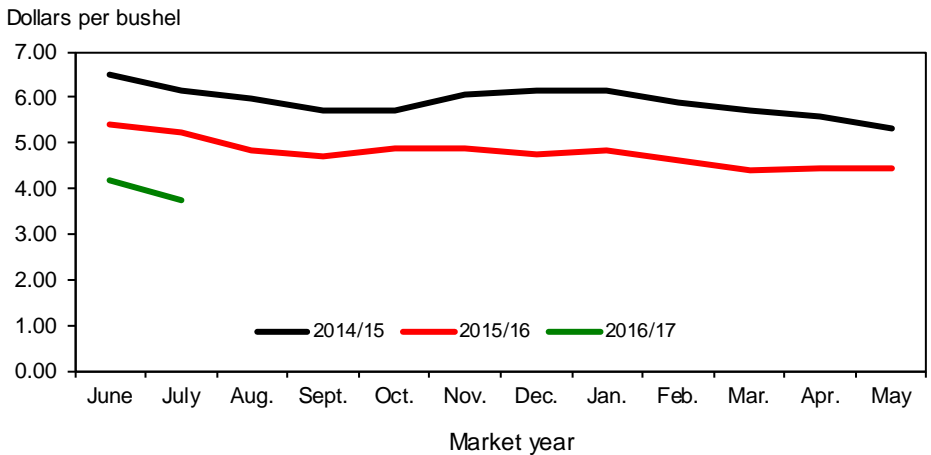
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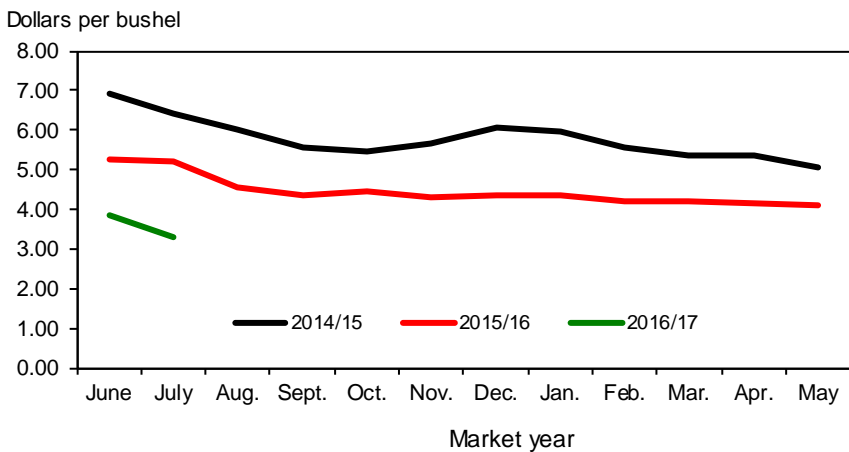
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Figure 1
All wheat average prices received by farmers



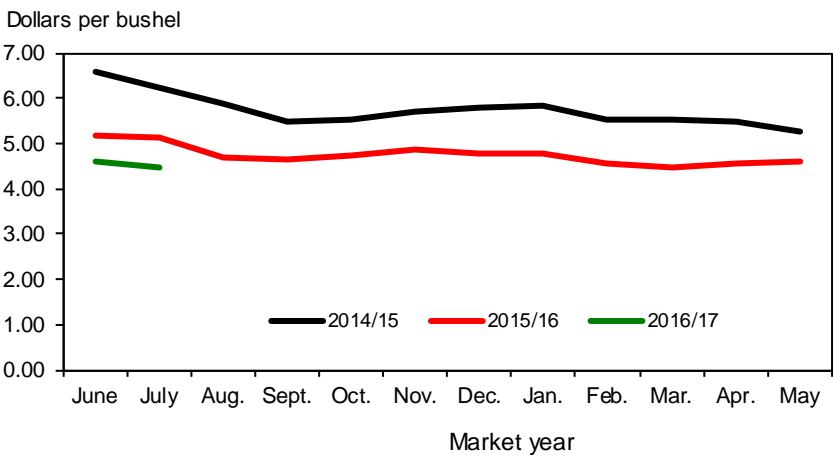
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 2
Hard red winter wheat average prices received by farmers



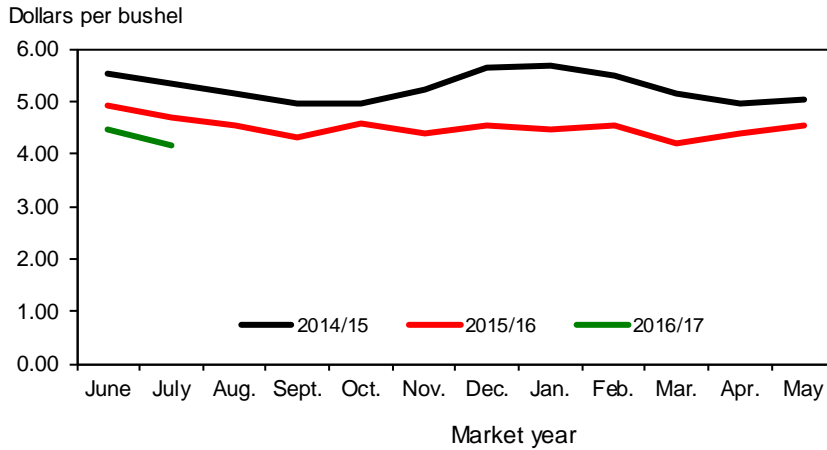
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 3
Hard red spring wheat average prices received by farmers



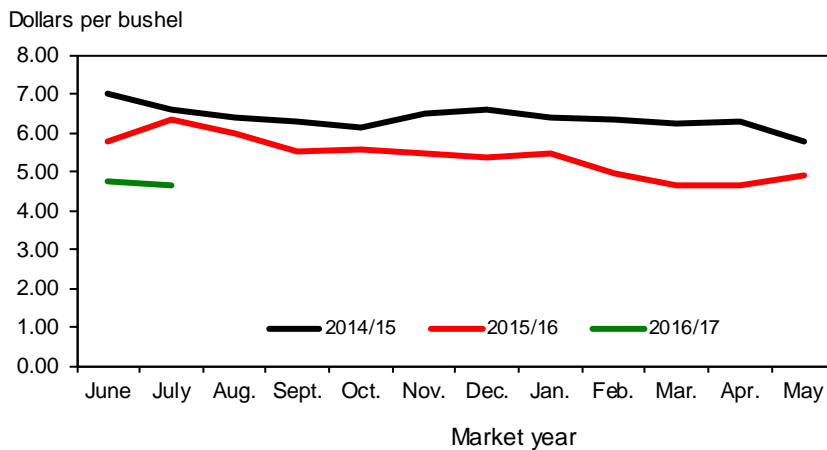
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 4
Soft red winter wheat average prices received by farmers



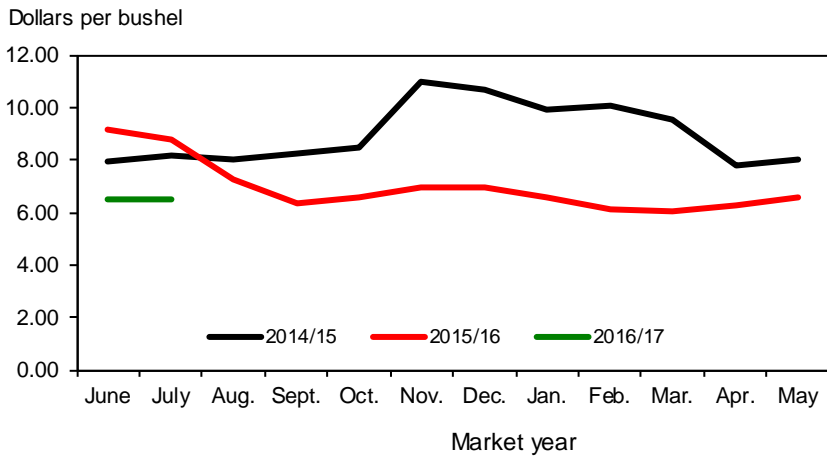
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Figure 5
Soft white wheat average prices received by farmers



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

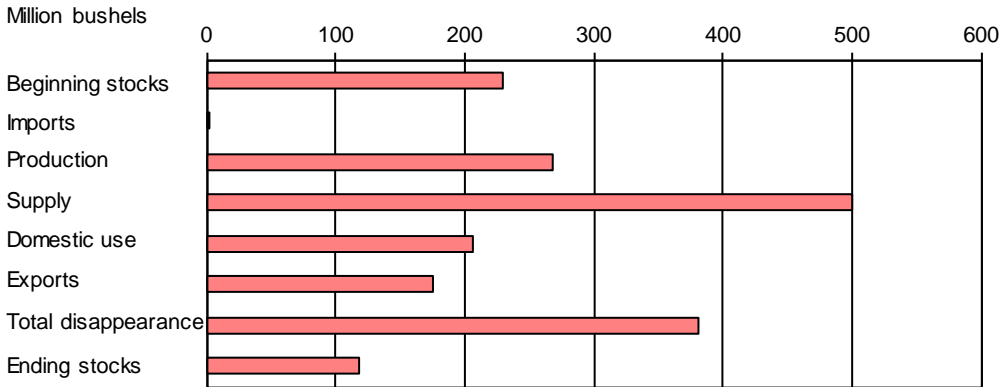
Figure 6
Durum wheat average prices received by farmers



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

Figure 7

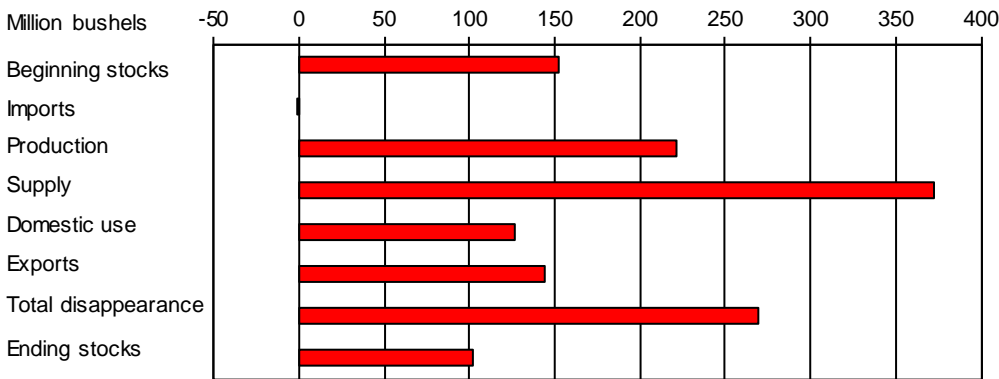
All wheat: U.S. supply and disappearance change from prior market year



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

Figure 8

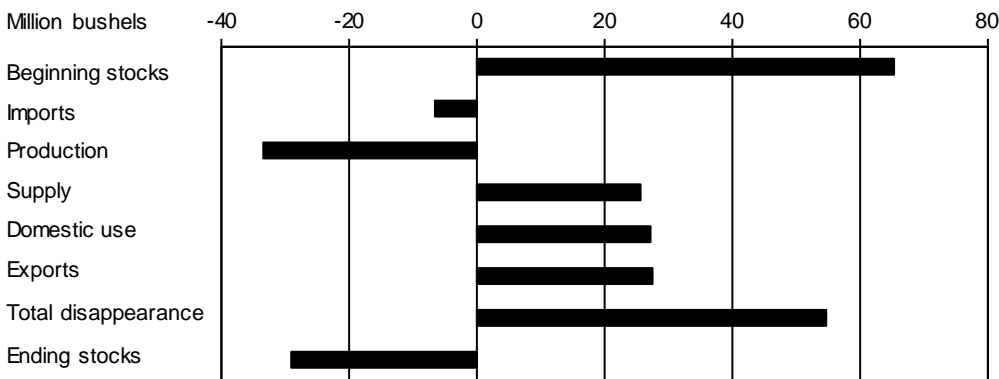
Hard red winter wheat: U.S. supply and disappearance change from prior market year



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

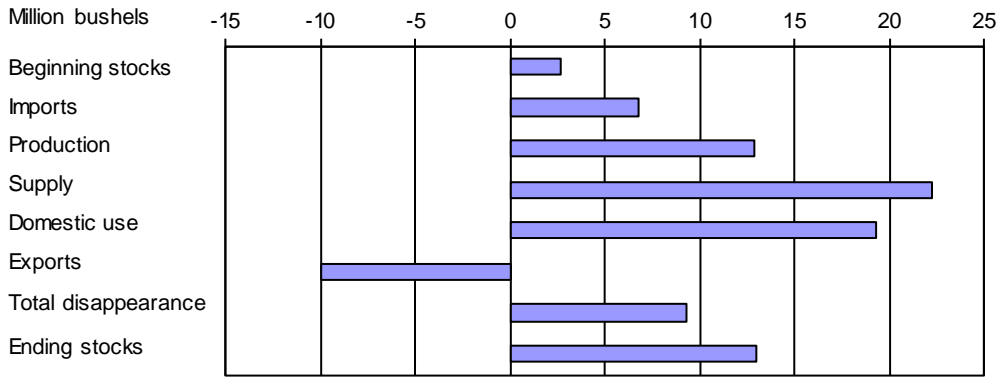
Figure 9

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



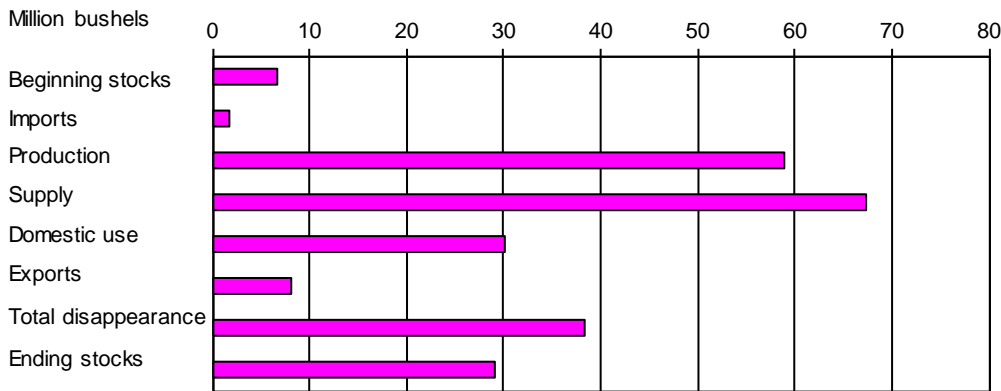
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

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



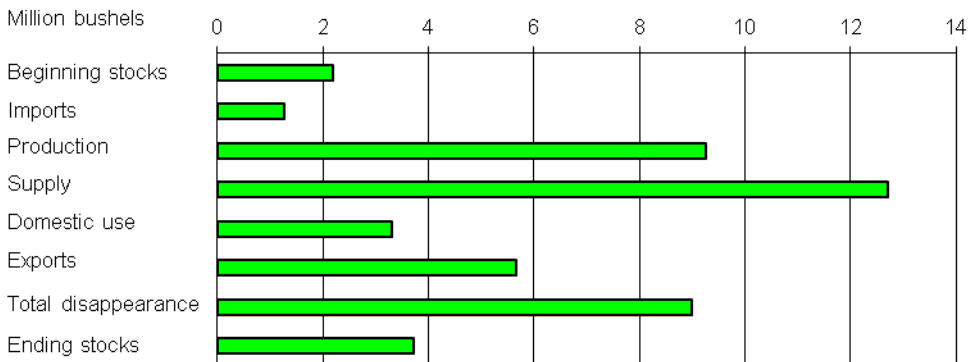
Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*.

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, 9/14/2016

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	54.6	50.8
Harvested	Million acres	46.9	45.7	48.8	45.3	46.4	47.1	44.1
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	981.3
Production	Million bushels	2,163.0	1,993.1	2,252.3	2,135.0	2,026.3	2,051.8	2,320.6
Imports ¹	Million bushels	96.9	113.1	124.3	172.5	151.3	112.9	115.0
Total supply	Million bushels	3,235.6	2,969.2	3,119.2	3,025.3	2,767.9	2,917.1	3,416.9
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	78.9	68.3	69.0
Feed and residual use	Million bushels	84.8	158.5	365.3	226.7	114.2	135.0	330.0
Total domestic use	Million bushels	1,081.1	1,175.5	1,389.3	1,258.8	1,151.3	1,160.7	1,367.0
Exports ¹	Million bushels	1,291.4	1,051.1	1,012.1	1,176.2	864.1	775.1	950.0
Total disappearance	Million bushels	2,372.6	2,226.6	2,401.4	2,435.1	2,015.5	1,935.8	2,317.0
Ending stocks	Million bushels	863.0	742.6	717.9	590.3	752.4	981.3	1,099.9
Stocks-to-use ratio		36.4	33.4	29.9	24.2	37.3	50.7	47.5
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	3.30-3.90
Market value of production	Million dollars	12,579	14,269	17,383	14,604	11,915	10,203	8,354

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.

²U.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: 9/13/2016

Table 2. Wheat by class: U.S. market year supply and disappearance, 9/14/2016

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	54.64	28.98	12.51	7.09	4.13	1.94
	Harvested acreage	Million acres	47.09	23.14	12.22	5.89	3.94	1.90
	Yield	Bushels per acre	43.57	35.73	46.15	60.92	55.65	43.50
	Supply:							
	Beginning stocks	Million bushels	752.39	293.74	212.00	154.00	67.00	25.66
	Production	Million bushels	2,051.75	826.91	564.11	359.06	219.19	82.48
	Imports ²	Million bushels	112.91	6.20	48.55	18.24	6.18	33.73
	Total supply	Million bushels	2,917.06	1,126.85	824.66	531.30	292.38	141.88
	Disappearance:							
	Food use	Million bushels	957.40	391.29	251.00	153.00	83.00	79.11
	Seed use	Million bushels	68.34	29.65	17.37	12.65	5.40	3.27
	Feed and residual use	Million bushels	134.95	33.84	26.30	89.02	-16.52	2.31
	Total domestic use	Million bushels	1,160.68	454.77	294.66	254.67	71.89	84.69
	Exports ²	Million bushels	775.08	226.46	252.47	120.00	146.81	29.33
	Total disappearance	Million bushels	1,935.76	681.23	547.13	374.67	218.70	114.02
	Ending stocks	Million bushels	981.30	445.62	277.53	156.63	73.68	27.85
2016/17	Supply:							
	Beginning stocks	Million bushels	981.30	445.62	277.53	156.63	73.68	27.85
	Production	Million bushels	2,320.59	1,048.10	530.72	371.94	278.10	91.73
	Imports ²	Million bushels	115.00	5.00	42.00	25.00	8.00	35.00
	Total supply	Million bushels	3,416.89	1,498.72	850.24	553.57	359.78	154.58
	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	330.00	185.00	30.00	105.00	10.00	.00
	Total domestic use	Million bushels	1,367.00	581.00	322.00	274.00	102.00	88.00
	Exports ²	Million bushels	950.00	370.00	280.00	110.00	155.00	35.00
	Total disappearance	Million bushels	2,317.00	951.00	602.00	384.00	257.00	123.00
	Ending stocks	Million bushels	1,099.89	547.72	248.24	169.57	102.78	31.58

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

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

²Includes 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: 9/13/2016

Table 3. Wheat: U.S. quarterly supply and disappearance (million bushels), 9/14/2016

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	-92	208	1,530
	Dec-Feb		37	1,566	231	2	8	185	1,140
	Mar-May		36	1,176	240	22	-57	219	752
	Mkt. year	2,026	151	2,768	958	79	114	864	752
2015/16	Jun-Aug	2,052	27	2,831	240	1	288	205	2,097
	Sep-Nov		27	2,124	249	46	-109	192	1,746
	Dec-Feb		34	1,781	230	1	-1	179	1,372
	Mar-May		25	1,397	239	21	-43	199	981
	Mkt. year	2,052	113	2,917	957	68	135	775	981
2016/17	Mkt. year	2,321	115	3,417	968	69	330	950	1,100

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

¹Includes 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: 9/13/2016

Table 4. Wheat: Monthly food disappearance estimates (1,000 grain-equivalent bushels), 9/14/2016

Mkt year and month 1/	Wheat ground for flour	+	Food imports ²	+	Nonmilled food use ³	-	Food exports ²	=	Food use ⁴
2014/15 ¹	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

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.

⁴ 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 Miller's Association.

Date run: 9/13/2016

Table 5. Wheat: National average price received by farmers (dollars per bushel), 9/14/2016

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		4.80		7.28		4.71	
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), 9/14/2016

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		4.54		4.67		6.00	
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: 9/13/2016

Table 7. Wheat: Average cash grain bids at principal markets, 9/14/2016

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	--	5.59	--	5.69	--	172.70	--
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	--	--	--
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	--	4.86	--	5.04	--	5.38	--
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.

¹Free 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=LSSMarketNewsPageStateGrainReports>.

Date run: 9/13/2016

Table 8. Wheat: U.S. exports and imports for last 6 months (1,000 bushels), 9/14/2016

Item		Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016
Exports	All wheat grain	54,890	63,641	65,598	64,011	85,398	75,502
	All wheat flour ¹	1,138	1,626	1,309	1,464	1,710	1,338
	All wheat products ²	567	578	560	593	460	371
	Total all wheat	56,595	65,846	67,467	66,069	87,567	77,210
Imports	All wheat grain	9,743	5,657	5,203	4,091	5,757	7,078
	All wheat flour ¹	1,176	1,092	2,461	1,200	1,266	1,058
	All wheat products ²	1,605	1,784	1,765	1,658	1,698	1,614
	Total all wheat	12,525	8,534	9,429	6,948	8,721	9,750

Totals may not add due to rounding.

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

²Expressed 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: 9/13/2016

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 9/01/16)		
					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	412	25	437
Japan	3,054	3,121	2,499	2,434	600	423	1,022
Mexico	2,842	2,721	2,503	2,318	577	575	1,152
Nigeria	1,790	1,904	1,457	1,401	343	253	596
Philippines	2,376	2,338	2,077	2,118	765	511	1,277
Korean Rep.	1,181	1,148	1,093	1,074	264	409	673
Egypt	156	387	99	42	0	0	0
Taiwan	983	1,002	1,129	1,034	331	47	378
Indonesia	691	643	666	608	293	81	374
Venezuela	457	438	252	239	198	0	198
European Union	658	724	831	934	224	33	257
Total grain	22,878	22,622	20,419	19,440	6,859	5,648	12,507
Total (including products)	23,518	22,693	21,094	19,544	6,894	5,668	12,562
USDA forecast of Census							25,855

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

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