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Feed Outlook

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Record Projected Corn Yield and Production for 2016/17

The next release is September 14, 2016

Approved by the World Agricultural Outlook Board.

Excellent growing conditions have resulted in a 613-million bushel increase in the 2016/17 corn crop. The August *Crop Production* report from USDA's National Agricultural Statistics Service forecast the national corn yield at 175.1 bushels per acre, 7.1 bushels above last month's weather-adjusted trend projection and 4.1 bushels higher than the previous record of 171.0 bushels per acre. With the harvested area forecast unchanged at 86.6 million acres, the resulting production is 15.2 billion bushels, 938 million above the previous high in 2014/15.

Total use is forecast 300 million bushels higher on the lower price to 14,500 million bushels. If realized, this would be record-high use and 752 million bushels above the prior record in 2014/15. Feed and residual use is projected up 175 million bushels to 5,675 million and exports are projected up 125 million bushels to 2,175 million. The 2016/17 season-average farm price for corn is projected at $3.15 per bushel, 25 cents below last month and the lowest since 2006/07.

USDA's world coarse grain production forecast for 2016/17 is raised 1.5 percent in August, and production is now expected to marginally surpass its 2014/15 record as it rises 6.0 percent from the year before. World coarse grain trade for 2016/17 is forecast higher in August, up 1.9 percent to 173.2 million tons. World corn trade in 2106/17 is expected to total 133.7 million tons, down 2.2 percent from the year before but the second highest ever.

Recent *Feed Outlook* Special Articles

"Boutique Brews, Barley, and the Balance Sheet," pdf pages 18-23 of the January 2015 *Feed Outlook* report (http://www.ers.usda.gov/publications/fds-feed-outlook/fds-15a.aspx).

"World Corn Use Expands Despite High Prices in 2012/13," pdf pages 17-22 of the June 2013 *Feed Outlook* report (http://www.ers.usda.gov/publications/fds-feed-outlook/fds-13f.aspx).

"Animal Unit Calculations—First Projections for the 2013/14 Crop Year," pdf pages 25-30 of the May 2013 *Feed Outlook* report (http://www.ers.usda.gov/publications/fds-feed-outlook/fds-13e.aspx).

Domestic Outlook

Feed Grain Supply Advances to Record on Higher Yields

At 175.1 bushels per acre, the first survey-based yield forecast provided by the August 12 USDA National Agricultural Statistics Service (NASS) *Crop Production* report for the 2016/17 corn crop is up 7.1 bushels per acre over the trend-based projection in USDA's July 12 *World Agricultural Supply and Demand Estimates* (WASDE). The increase reflects excellent growing conditions in the Corn Belt, with yield increases in all major producing States but Minnesota and South Dakota. If realized, production from the 86.6 million acres expected to be harvested this season will reach a record 15,153 million bushels, exceeding last year's estimated crop of 13,601 million bushels by 1,552 million.

The Illinois yield led the major producing States at 200 bushels per acre, followed by Iowa with 197 bushels. Yields for Indiana and Nebraska were each forecast at 187 bushels per acre. Of the major corn-producing States, Indiana and Illinois had the largest yield gains compared with last season. As of August 7, the NASS *Crop Progress* report indicates 74 percent of the crop was in the good-to-excellent range, compared with 70 percent at this point last year and 76 percent the previous week.

Feed Grain Supplies Advance

The boost in corn production, accompanied by smaller increases in sorghum, barley, and oats production, advances projected feed grain supplies for 2016/17 to 452.9 million metric tons, 17.3 million tons over last month's projection. Feed grain supplies are projected 35.7 million tons above the 2015/16 record level.

Feed and Residual Use for the Four Feed Grains and Wheat Projected up Sharply for 2016/17

Projected 2016/17 feed and residual use for the four feed grains and wheat on a September-August marketing year is raised to 155.6 million metric tons from last month's 151.7 million. The increase is mostly the result of a large jump in corn feed and residual use, reflecting the large crop and lower expected price. Offsetting some of the increase for corn is a decline in projected sorghum feed and residual use. For the September-October marketing year, the 2015/16 forecast was raised 1.1 million metric tons to 144.9 million tons with this months' increase in projected 2016/17 (June-July) wheat feed and residual use.

Grain consuming animal units (GCAUs) for 2016/17 are projected at 94.93 million units this month, down 0.16 million from last month's projection of 95.09 million. Lower indices for cattle on feed, broilers, and turkeys are behind the month-to-month decline. Feed and residual use per GCAU is projected at 1.64 tons per GCAU, compared with 1.60 tons last month. For 2015/16, GCAUs are unchanged from last month's 93.80 million units.

Corn Supplies Surge

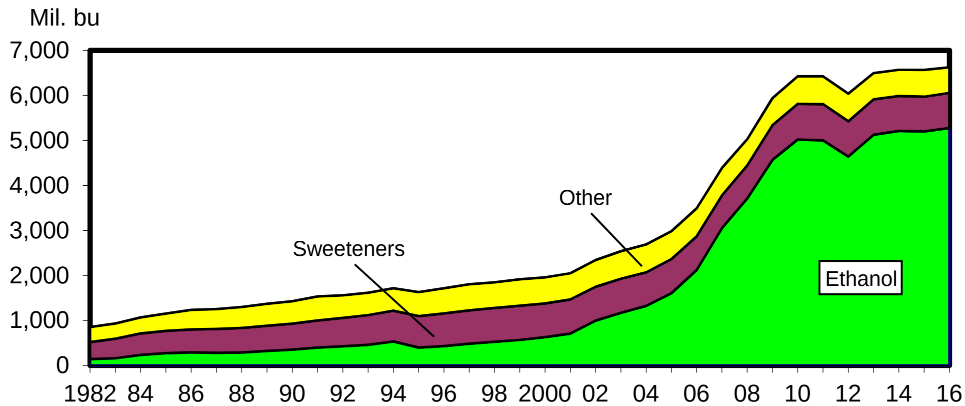
Higher production for 2016/17 accounts for most of this month's increase in projected new-crop corn supplies; however, supplies are also augmented by a small increase in carryin and higher expected imports. For 2015/16, an increase in imports and offsetting changes in use categories boost ending stocks 5 million bushels. Projected imports are raised for both years reflecting higher reported imports of organic corn in recent months. At 16,909 million bushels, corn supplies for 2016/17 are 628 million higher than last month's projection and 1,512 million above those for 2015/16.

Corn Use Projected Higher With Lower Price Outlook

With lower projected prices, some use categories are projected higher. Corn feed and residual use for 2016/17 is projected 175 million bushels higher at 5,675 million bushels this month. Exports are raised 125 million bushels to 2,175 million, the highest since 2007/08 (2,437 million bushels). Lower prices have made U.S. corn more competitive in the world market and while global supplies are high, the United States is expected to remain very competitive in world corn trade. Corn food, seed, and industrial (FSI) use is unchanged for 2016/17, with corn used for ethanol projected at 5,275 million bushels, 75 million over this month's lowered 2015/16 forecast of 5,200 million.

Figure 1

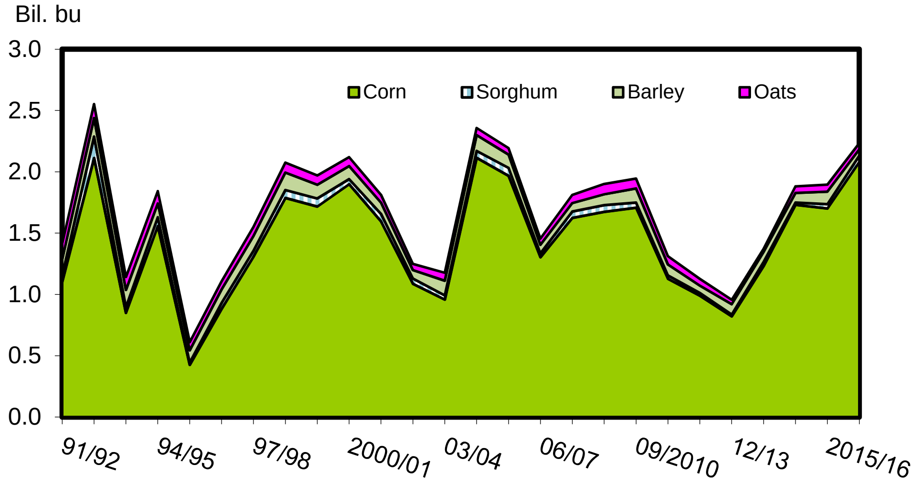
U.S. food, seed, and industrial use of corn



Note: Marketing years. Other includes starch, beverage alcohol, cereals and other products, and seed.
Source: USDA, Economic Research Service, *Feed Grains Database.*

Corn ending stocks for 2016/17 are projected 328 million bushels higher than last month and 703 million higher than for 2015/16. At 2,409 million bushels, projected stocks are the highest since 1987/88 when corn held in nonrecourse loan and the Farmer Owned Reserve programs boosted carryout to 4,259 million bushels.

Figure 2
U.S. feed grain ending stocks

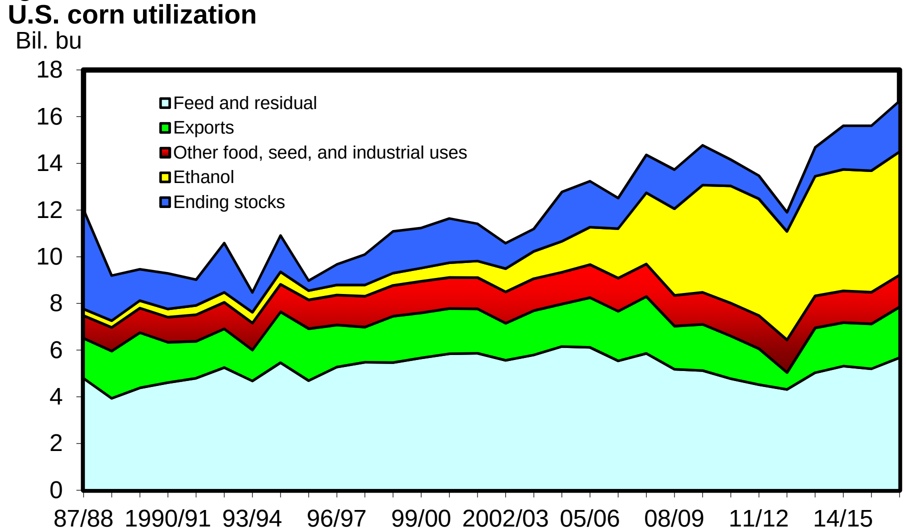


Sources: USDA, Economic Research Service, *Feed Grains Database* and USDA, World Agricultural Outlook Board, *WASDE.*

Corn Balance Sheet Changes for 2015/16

The only change to the 2015/16 corn balance sheet is a 5-million-bushel increase in imports based mainly on increased pace of organic corn and continued shipments of feed corn, mostly to the U.S. Southeast feed market from Brazil. Shipments from South America avoid higher freight charges for rail shipments and ocean shipping between domestic ports, which require U.S. flagged vessels at higher freight rates. These shipments, however, are expected to slow in the coming months with rebounds in corn production in the eastern Corn Belt and tightening supplies of corn in Brazil. U.S. corn supplies for 2015/16 are expected at 15,397 million bushels.

Figure 3
U.S. corn utilization



Note: Marketing years. 2015/16 and 2016/17 are projected.
Source: USDA, World Agricultural Outlook Board, *WASDE.*

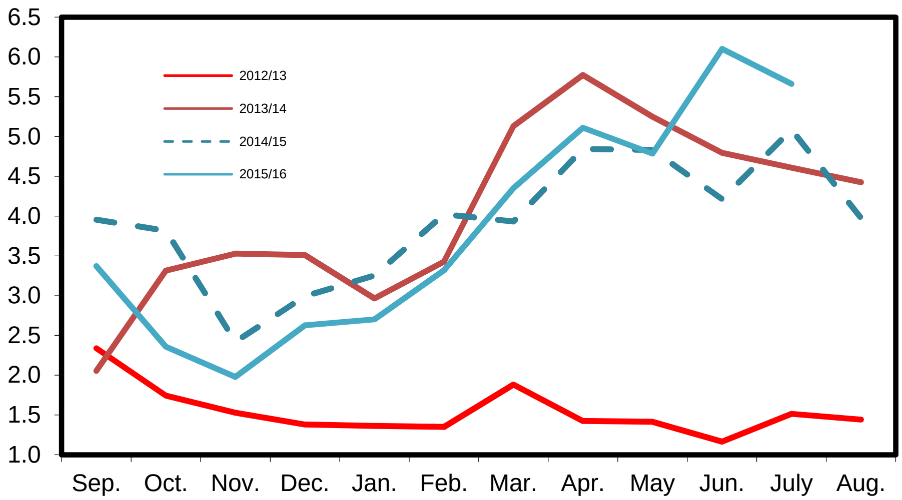
Corn for ethanol production is lowered 25 million bushels this month based on the latest data from the NASS *Grain Crushings and Co-Products Production* report. Total FSI is estimated at 6,567 million bushels. There are no revisions in other FSI use categories.

Exports for 2015/16 are raised 25 million bushels as U.S. corn gains competitiveness as supplies remain tight in Brazil following strong exports earlier in the year and a weather-reduced second-season corn crop. Total disappearance for 2015/16 is projected at 13,692 million bushels, resulting in ending stocks of 1,706 million, up 5 million this month.

Figure 4

U.S. corn exports

Mil. metric tons



Source: USDA, U.S. Census Bureau, July 2016, *Grain Inspections.*

Census Trade Revisions This Month

Small back-year Census trade revisions are made for 2013/14 and 2014/15 corn imports and exports. For 2013/14, imports and exports are now estimated at 35.8 million bushels and 1,920.8 million, respectively. Revisions for 2014/15 put corn imports and exports, respectively, at 31.6 million bushels and 1,866.9 million. Feed and residual use estimates for both years are adjusted to reflect the net change in trade volumes.

Corn Price Prospects Slump on Record 2016 Yield Forecast

The projected 2016/17 U.S. season-average farm price for corn is lowered 25 cents at both ends of the range to $2.85 to $3.45 per bushel. At the midpoint of $3.15 per bushel, this would be the lowest since the 2006/07 marketing year when corn averaged $3.04 per bushel. The stocks-to-use ratio is projected at 16.6 percent, up from 12.5 percent expected in 2015/16.

The price range for the 2015/16 crop is lowered by 5 cents on the low and high end of the range to $3.55 to $3.65 per bushel for a midpoint projection of $3.60 per bushel.

Sorghum Yields Also Bumped up

The first survey-based yield forecast for 2016/17 puts the average sorghum yield 8.4 bushels per acre higher than the July projection. At 73.5 bushels per acre, the current yield forecast is 2.5 bushels below last year's record high of 76.0 bushels per acre. Projected yields in Kansas are 4 bushels per acre below last year while Texas recovered from last year's drought to gain 4 bushels per acre, reaching 65 bushels per acre.

The higher yield forecast boosts production by 55 million bushels from last month's projection but is still 122 million bushels behind last year's crop. Combined with a 10-million-bushel decrease in carryin gives a supply of 511 million bushels, 45 million bushels over last month's forecast but 109 million short of 2015/16.

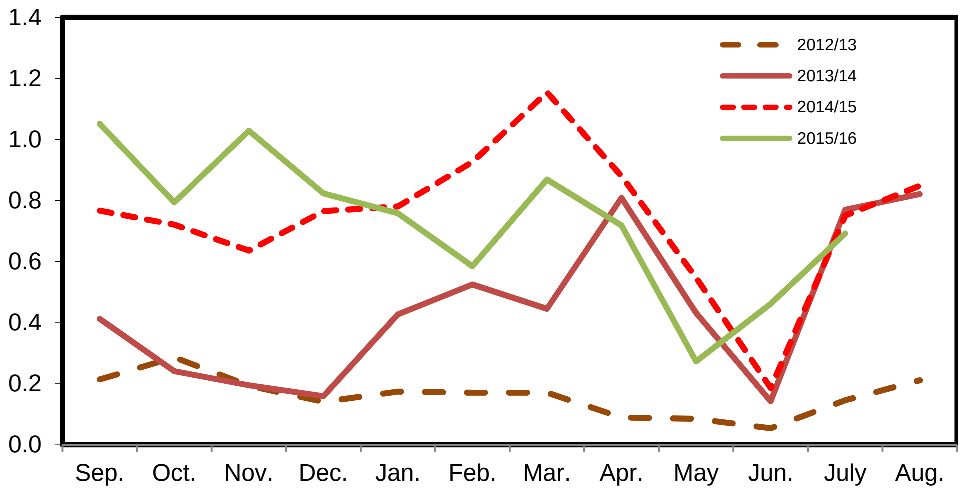
Sorghum Use Projected Higher

Sorghum use for ethanol in 2016/17 is forecast 20 bushels higher this month at 118 million. A 30-million-bushel increase in exports puts this month's projection at 250 million bushels. Although purchases by China are still substantial, Mexico has returned as a major buyer. Overall, shipments are expected down from 2015/16 when heavy early-season buying by China supported near-record exports.

Figure 5

U.S. sorghum exports

Mil. metric tons



Source: USDA, U.S. Census Bureau, July, 2016, *Grain Inspections*.

Projected sorghum feed and residual use for 2016/17 is lowered 10 million bushels, reflecting stronger expected use for ethanol and exports. Total disappearance is projected at 460 million bushels, up 40 million from last month's projection but down from 585 million bushels forecast for 2015/16, mostly due to lower expected exports.

At 51 million bushels, 2016/17 sorghum ending stocks are projected 5 million over last month's forecast and 16 million greater than the 2015/16 forecast. Stocks would be the largest since 2008/09 (55 million).

There are no supply changes this month for the 2015/16 marketing year, but revisions are made to expected use. The NASS *Grain Crushings and Co-Products Production* report indicates a higher rate of sorghum use for ethanol, boosting expected use 5 million bushels to 138 million bushels with total FSI use now projected at 140 million. Feed and residual use is lowered 10 million bushels as other grains increase in competiveness. Exports are raised 15 million bushels to 345 million as the pace of shipments continues to run ahead of expectations supported by continued demand from China. Sorghum ending stocks for 2015/16 are projected at 35 million bushels, down 10 million this month.

Minor back-year Census sorghum trade revisions are made for 2013/14 and 2014/15 exports. For 2013/14, exports are now estimated at 211 million bushels and for 2014/15, exports are 352 million. Feed and residual use estimates for both years are adjusted to reflect the net change in trade volumes.

With the significant increase in both corn and sorghum production, the 2016/17 sorghum season-average price is lowered this month. At the midpoint, the projected sorghum farm price is $3.00 per bushel, a 15-cent decrease from the July estimate and 30 cents lower than the expected 2015/16 season-average farm price. The 2016/17 sorghum price range is lowered 15 cents on both ends to $2.70 to $3.30 per bushel. The 2015/16 average sorghum price received by producers is unchanged with a low of $3.25 and a high of $3.35 per bushel for a midpoint estimate of $3.30 per bushel. The 2015/16 season-average price of sorghum is projected at approximately 92 percent of the comparable corn price.

Improved Yields Push Barley Production Higher

The 2016/17 barley crop is forecast up 6.9 million bushels from last month on a yield increase of 2.7 bushels per acre, which boosts crop prospects to a projected 189.7 million bushels from last month's forecast. Seventy-two percent of the crop was rated good to excellent as of August 7, compared with 66 percent at the same time last year. With no changes in projected disappearance, stocks are raised 6.9 million bushels to 94.1 million. This would be 8.3 million bushels below the estimate for 2015/16.

Very small back-year Census barley trade revisions are noted for 2014/15 and 2015/16 imports and exports. For 2014/15, imports and exports are now estimated at 23.6 million bushels and 14.3 million, respectively. Updated imports and exports for 2015/16 are 18.5 million bushels and 10.8 million, respectively. Feed and residual use estimates for both years are adjusted to reflect the net change in trade volumes.

With little barley being fed, the price of barley is largely determined by contracts for malting barley. The projected low and high ends of the 2016/17 price range are raised 25 cents each this month to $4.55 and $5.35 per bushel. The midpoint all barley price is projected at $4.95 per bushel.

Oats Yield Forecast Shows Moderate Increase

Alongside other small grains, U.S. oats have benefited from favorable weather conditions that nudged yield forecasts upward. This month, the 2016/17 oats yield forecast is increased 0.2 bushels per acre to 66.0 bushels. With harvested area anticipated at 1.2 million acres, U.S. oats production is projected to reach 76.9

million bushels, 245,000 over last month's forecast but 12.7 million below last year's production of 89.5 million. As a result, the 2016/17 forecast total oats supply increases this month by 245,000 bushels to 228.7 million bushels, putting it virtually equal to the 2015/16 total supply.

Slight back-year Census revisions to oats imports are noted for 2013/14 and 2014/15, now estimated at 108.9 and 85.6 million bushels, respectively. Back-year revisions to exports for the same years result in new estimates of 1.843 million bushels for 2014/15 and 1.972 million for 2015/16. Feed and residual for these years are revised with offsetting changes.

The midpoint of the 2016/17 oats season-average farm price is projected at $1.80 per bushel with a range of $1.60 to $2.00 per bushel. The projected range is reduced 15 cents per bushel on the low and high end from July. The current oats price projection is 32 cents lower at the midpoint than the 2015/16 season-average price and would be the lowest oats price since 2005/06, when prices were $1.63 per bushel.

Alfalfa, Other Hay Yields, and Production up Slightly

Forecast 2016 U.S. production of alfalfa and alfalfa mixtures, as well as other hay, are up a combined 5 percent relative to the 2015 estimates. Based on August 1 conditions, yields for the two categories of hay are expected to average 3.40 and 2.07 tons per acre, respectively.

Harvested alfalfa and alfalfa mixture hay area is up 2 percent from 2015 and is forecast at 18.1 million acres; other hay harvested area is projected at 38.1 million acres, up 4 percent from a year ago. In aggregate, total hay production is forecast at 140.5 million tons and compares to the 134.4 million tons harvested in 2015. The current production forecasts will be updated in the NASS October 12 *Crop Production* report. Nationwide, pasture and range conditions for the week ending August 7 indicate that 51 percent of acres were rated as "good" to "excellent," an increase of 4 percent over the previous year.

The June all-hay price, at $134 per ton, was markedly lower than the $162 per ton growers received in June 2015. The year-to-year decline in the all-hay monthly price is primarily driven by sizable reductions in alfalfa hay prices. In June 2015, the average price of alfalfa was $178 per ton; in 2016, the price was 20 percent lower at $142 per ton.

International Outlook

World Production and Consumption Record-High for Coarse Grains and Corn in 2016/17

USDA's world coarse grain production forecast for 2016/17 is raised 1.5 percent in August, and production is now expected to marginally surpass its 2014/15 record as it rises 6.0 percent from the year before. Global coarse grain production in 2016/17 is forecast at 1,322.6 million tons, with the year-to-year production increase primarily driven by rebounding corn production in the United States, Argentina, Brazil, and South Africa. The United States accounts for most of this increase, more than offsetting lower expected production in China and Canada. U.S. corn production is expected to rise 39.4 million tons, to 384.9 million, an 11.4-percent increase.

USDA's world coarse grain consumption forecast for 2016/17 is raised 0.7 percent in August. On a year-to-year basis, an unusually strong rate of global consumption growth is now expected at 5.1 percent. This would be more than twice the average rate of recent years. World coarse grain consumption in 2016/17 is forecast to increase by 63.3 million tons from the year before to a record 1,311.8 million.

As with production, the annual change in world consumption of coarse grains is primarily driven by changes in corn. World corn consumption in 2016/17 is expected to rise 6.1 percent, or 58.3 million tons, from the year before to 1,016.9 million tons. Gains are spread over a number of countries, led by the United States (up 14.2 million tons) and China (8.5 million).

World Coarse Grain Trade Lower in 2016/17

World coarse grain trade for 2016/17 is forecast higher in August, up 1.9 percent to 173.2 million tons. This would be 3.1 percent below the record 178.7 million tons traded in 2015/16 but still near historic highs. World trade is foreseen falling from the year before in 2016/17 as China reduces both corn and sorghum imports, and corn export availability in Brazil declines due to weather-reduced production in 2015/16.

World corn trade in 2016/17 is expected to total 133.7 million tons, down 2.2 percent from the year before but the second highest ever. The largest import declines are foreseen for China (2.2 million tons), the European Union (1.2 million tons), and Vietnam (900,000 tons). On the export side, a large decline in Brazil's expected corn exports (13.5 million tons) will likely be largely offset by increased exports by the United States (5.5 million tons) and Argentina (4.5 million tons). U.S. corn exports in 2016/17 are forecast to be the world's largest at 55.0 million tons.

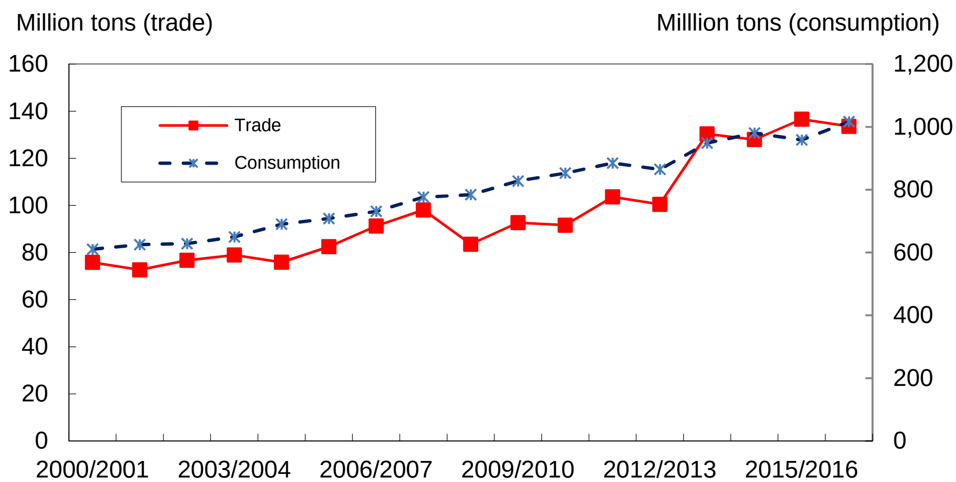
As a share of world consumption, world corn trade in 2016/17 is forecast to be down from the year before but marginally above the share consistent with extending a 2000/01-2015/16 trend for 1 year. Figure 6 indicates that both world consumption and trade of corn have been trending upward since 2000/01, but trade jumped in 2013/14 and has continued at a higher plateau since then. While the rebound in U.S. corn exports from low levels in 2011/12 and—especially—2012/13 has helped sustain this increase in world trade, the biggest differences between the years before and after the trade jump are the increased exports by Brazil and Ukraine. Even with a 13.5-million-ton year-to-year reduction in exports expected for Brazil in 2016/17, its 19.5 million tons of forecasted exports would be higher than those for any year before 2012/13. The 17.0 million tons of corn exports expected from Ukraine in 2016/17 are several million tons below its 2013/14 peak but would be triple 2010/11 exports and six times exports in 2005/06. On the import side, world trade gains from 2012/13 through those projected for 2016/17 have been supported by larger corn imports by Mexico (forecasted up 7.8 million tons), Egypt (up 3.7 million), South Africa (2.5 million), and a number of smaller countries.

World Coarse Grain and Corn Ending Stocks Steady Versus Consumption in 2016/17

USDA's forecast of world coarse grain ending stocks in 2016/17 is raised 5.5 percent from the month before, primarily due to larger expected stocks of U.S. corn. On a year-to-year basis, world coarse grain ending stocks are expected to rise 10.7 million tons, or 4.4 percent, to 255.5 million tons. As a share of world consumption, world coarse grain ending stocks are expected to be marginally lower than in 2015/16, 19.5 percent compared with 19.6 percent.

World corn ending stocks in 2016/17 are expected to rise 11.5 million tons from the year before to 220.8 million. Larger U.S. stocks (up 17.9 million tons) and Argentine stocks (up 1.9 million) are expected to more than offset declines in China (7.0 million) and the EU (1.6 million). As was true for total coarse grains, world corn ending stocks as a share of consumption in 2016/17 are forecast marginally below their 2015/16 level (21.7 percent versus 21.8 percent) but are expected to remain above the levels that prevailed during 2002/03-2013/14.

Figure 6
World corn trade and consumption



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

Contacts and Links

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Table 1--Feed grains: U.S. quarterly supply and disappearance (million bushels), 8/16/2016

Commodity, market year, and quarter 1/			Beginning stocks	Production	Imports	Total supply	Food, seed, and industrial use	Feed and residual use	Exports	Total disappear-ance	Ending stocks	Farm price 2/ (dollars per bushel)
Corn	2013/14	Sep-Nov	821	13,829	15	14,665	1,550	2,312	350	4,212	10,453	4.66
		Dec-Feb	10,453		7	10,459	1,602	1,459	390	3,451	7,008	4.40
		Mar-May	7,008		9	7,017	1,671	858	636	3,165	3,852	4.63
		Jun-Aug	3,852		6	3,858	1,677	404	544	2,626	1,232	4.06
		Mkt yr	821	13,829	36	14,686	6,500	5,033	1,921	13,454	1,232	4.46
	2014/15	Sep-Nov	1,232	14,216	5	15,452	1,615	2,225	401	4,241	11,211	3.57
		Dec-Feb	11,211		6	11,217	1,622	1,445	400	3,468	7,750	3.80
		Mar-May	7,750		10	7,760	1,662	1,105	540	3,307	4,453	3.75
		Jun-Aug	4,453		11	4,464	1,668	538	526	2,733	1,731	3.69
		Mkt yr	1,232	14,216	32	15,479	6,567	5,314	1,867	13,748	1,731	3.70
	2015/16	Sep-Nov	1,731	13,601	13	15,345	1,631	2,175	301	4,107	11,238	3.65
		Dec-Feb	11,238		18	11,256	1,645	1,451	340	3,437	7,819	3.64
		Mar-May	7,819		20	7,838	1,630	926	561	3,116	4,722	3.60
		Mkt yr	1,731	13,601	65	15,397	6,567	5,200	1,925	13,692	1,706	3.55-3.65
	2016/17	Mkt yr	1,706	15,153	50	16,909	6,650	5,675	2,175	14,500	2,409	2.85-3.45
Sorghum	2013/14	Sep-Nov	15.15	392.33	0.01	407.49	45.00	97.71	33.39	176.10	231.39	4.28
		Dec-Feb	231.39		0.01	231.40	10.00	6.52	39.15	55.67	175.73	4.22
		Mar-May	175.73		0.01	175.74	12.01	0.25	71.05	83.32	92.42	4.68
		Jun-Aug	92.42		0.07	92.49	2.88	-11.81	67.39	58.46	34.03	4.11
		Mkt yr	15.15	392.33	0.09	407.57	69.89	92.67	210.98	373.54	34.03	4.28
	2014/15	Sep-Nov	34.03	432.58	0.21	466.82	10.60	149.98	83.64	244.23	222.59	3.63
		Dec-Feb	222.59		0.12	222.71	1.80	2.37	98.69	102.86	119.86	4.17
		Mar-May	119.86		0.00	119.86	1.43	-14.99	99.13	85.57	34.29	4.41
		Jun-Aug	34.29		0.04	34.33	1.18	-55.54	70.28	15.92	18.41	
		Mkt yr	34.03	432.58	0.38	466.98	15.01	81.82	351.75	448.57	18.41	4.03
	2015/16	Sep-Nov	18.41	596.75	3.60	618.76	22.00	160.11	114.44	296.54	322.22	3.49
		Dec-Feb	322.22		0.98	323.20	47.05	-11.61	86.33	121.78	201.42	3.16
		Mar-May	201.42		0.01	201.42	37.13	2.56	73.47	113.16	88.27	3.11
		Mkt yr	18.41	596.75	5.00	620.16	140.00	100.00	345.00	585.00	35.16	3.25-3.35
	2016/17	Mkt yr	35.16	474.68	1.00	510.84	120.00	90.00	250.00	460.00	50.84	2.70-3.30

Table 1--Feed grains: U.S. quarterly supply and disappearance, cont. (million bushels), 8/16/2016

Commodity, market year, and quarter 1/			Beginning stocks	Production	Imports	Total supply	Food, seed, and industrial use	Feed and residual use	Exports	Total disappear-ance	Ending stocks	Farm price 2/ (dollars per bushel)
Barley	2013/14	Jun-Aug	80	217	2	299	40	61	3	103	196	6.22
		Sep-Nov	196		5	201	39	-11	3	31	169	5.98
		Dec-Feb	169		4	173	37	10	4	52	122	6.03
		Mar-May	122		8	129	37	6	4	47	82	5.93
		Mkt yr	80	217	19	316	153	66	14	234	82	6.06
	2014/15	Jun-Aug	82	182	7	271	39	48	4	91	180	5.69
		Sep-Nov	180		5	184	38	-14	4	28	156	5.25
		Dec-Feb	156		6	163	37	5	3	44	118	5.07
		Mar-May	118		6	124	37	4	4	45	79	4.86
		Mkt yr	82	182	24	287	151	43	14	209	79	5.30
	2015/16	Jun-Aug	79	214	4	297	40	35	3	78	219	5.39
		Sep-Nov	219		4	223	38	0	4	42	181	5.52
		Dec-Feb	181		7	188	37	10	3	50	138	5.66
		Mar-May	138		4	141	38	0	1	39	102	5.43
		Mkt yr	79	214	19	311	153	46	11	209	102	5.52
	2016/17	Mkt yr	102	190	20	312	153	50	15	218	94	4.55-5.35
Oats	2013/14	Jun-Aug	36	65	17	118	17	37	0	55	63	3.72
		Sep-Nov	63		28	91	18	25	1	43	48	3.56
		Dec-Feb	48		20	68	16	16	0	33	35	3.71
		Mar-May	35		32	67	22	20	0	43	25	4.03
		Mkt yr	36	65	97	198	73	98	2	173	25	3.75
	2014/15	Jun-Aug	25	70	27	122	18	30	1	48	74	3.34
		Sep-Nov	74		25	99	18	14	0	32	67	3.16
		Dec-Feb	67		32	99	17	22	0	40	59	3.08
		Mar-May	59		25	84	24	6	1	31	54	2.89
		Mkt yr	25	70	109	204	77	71	2	150	54	3.21
	2015/16	Jun-Aug	54	90	18	161	18	49	0	68	94	2.15
		Sep-Nov	94		26	120	18	18	1	37	83	2.08
		Dec-Feb	83		25	108	17	15	0	33	75	2.09
		Mar-May	75		16	91	24	10	1	34	57	2.11
		Mkt yr	54	90	86	229	77	93	2	172	57	2.12
	2016/17	Mkt yr	57	77	95	229	78	90	2	170	59	1.60-2.00

Latest market year is projected; previous market year is estimated. Totals may not add due to rounding.
1/ Corn and sorghum, September 1-August 31 marketing year; Barley and oats, June 1-May 31 marketing year.
2/ Average price received by farmers based on monthly price weighted by monthly marketings. For the latest market year, quarterly prices are calculated by using the current monthly prices weighted by the monthly marketings for those months for the previous 5 years divided by the sum of marketings for those months.
Source: USDA, World Agricultural Outlook Board, World Agricultural Supply and Demand Estimates and supporting materials.

Data run: 8/15/2016

Table 2--Feed and residual use of wheat and coarse grains, 8/16/2016

Market year and quarter 1/		Corn (million metric tons)	Sorghum (million metric tons)	Barley (million metric tons)	Oats (million metric tons)	Feed grains (million metric tons)	Wheat (million metric tons)	Energy feeds (million metric tons)	Grain consuming animal units (millions)	Energy feeds per grain consuming animal unit
2014/15	Q1 Sep-Nov	56.5	3.8	-0.3	0.3	60.3	-2.5	57.8		
	Q2 Dec-Feb	36.7	0.1	0.1	0.4	37.3	0.2	37.5		
	Q3 Mar-May	28.1	-0.4	0.1	0.2	27.9	-1.6	26.4		
	Q4 Jun-Aug	13.7	-1.4	0.8	0.8	13.8	7.8	21.6		
	MY Sep-Aug	135.0	2.1	0.6	1.6	139.3	4.0	143.3	92.3	1.6
2015/16	Q1 Sep-Nov	55.2	4.1	0.0	0.3	59.7	-3.0	56.7		
	Q2 Dec-Feb	36.9	-0.3	0.2	0.3	37.1	-0.0	37.1		
	Q3 Mar-May	23.5	0.1	0.0	0.2	23.8	-1.2	22.6		
	MY Sep-Aug	132.1	2.5	1.1	1.5	137.2	7.7	144.9	93.8	1.5
2016/17	MY Sep-Aug	144.2	2.3	1.1	1.6	149.1	6.5	155.6	94.9	1.6

1/ Corn and sorghum, September 1-August 31 marketing year; Barley and oats, June 1-May 31 marketing year.
Source: USDA, World Agricultural Outlook Board, World Agricultural Supply and Demand Estimates and supporting materials.

Table 3--Cash feed grain prices, 8/16/2016

Mkt year and month 1/	Corn, No. 2 yellow, Central IL (dollars per bushel)			Corn, No. 2 yellow, Gulf ports, LA (dollars per bushel)			Sorghum, No. 2 yellow, Gulf ports, LA (dollars per cwt)		
	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16
Sep	4.78	3.16	3.55	5.27	4.14	4.22	9.84	7.91	8.08
Oct	4.20	3.09	3.67	5.13	4.15	4.36	9.31	8.52	8.23
Nov	4.10	3.45	3.62	5.06	4.54	4.22	8.86	9.04	7.89
Dec	4.13	3.75	3.62	5.06	4.55	4.17	9.34	9.85	
Jan	4.13	3.67	3.55	5.03	4.44	4.09	9.77	10.41	
Feb	4.33	3.65	3.56	5.32	4.41	4.06	10.16	10.70	
Mar	4.64	3.66	3.54	5.65	4.43	4.05	10.57		
Apr	4.98	3.59	3.61	5.65	4.38	4.17		9.97	
May	4.72	3.49	3.74	5.51	4.23	4.30		7.44	
Jun	4.37	3.52	3.91	5.14	4.24	4.62			
Jul	3.74	3.85	3.28	4.64	4.56	4.11			
Aug	3.59	3.51		4.48	4.14		8.41	8.09	
Mkt year	4.31	3.53		5.16	4.35		9.53	9.10	

	Barley, No. 2 feed, Minneapolis, MN (dollars per bushel)			malting, Minneapolis, MN (dollars per bushel)		Oats, No. 2 white heavy, Minneapolis, MN (dollars per bushel)		
	2014/15	2015/16	2016/17	2014/15	2015/16	2014/15	2015/16	2016/17
Jun	3.49	2.59	2.36	5.71		3.88	2.89	2.58
Jul	3.01	2.70	2.33	5.62		3.85	2.82	2.56
Aug	2.58	2.41		5.79		3.83	2.63	
Sep	2.30	2.39		5.98	4.95	3.86	2.70	
Oct	2.44	2.57		7.28	4.95	3.68	2.58	
Nov	2.48	2.60		7.35		3.53	2.67	
Dec	2.68	2.60		7.35		3.49	2.64	
Jan	2.79	2.58		7.10		3.26	2.60	
Feb	2.73	2.50		6.75		3.11	2.60	
Mar	2.75	2.46				3.14	2.43	
Apr	2.81	2.45		6.35		2.94	2.49	
May	2.76	2.44		6.23		2.75	2.49	
Mkt year	2.74	2.52		6.50		3.44	2.63	

1/ Corn and sorghum, September 1-August 31 marketing year; Barley and oats, June 1-May 31 marketing year. Simple average of monthly prices for the marketing year.
Source: USDA, Agricultural Marketing Service, http://marketnews.usda.gov/portal/lg.

Data run: 8/15/2016

Table 4--Selected feed and feed byproduct prices (dollars per ton), 8/16/2016

Mkt year and month 1/	Soybean meal, high protein, Central Illinois, IL			Cottonseed meal, 41% solvent, Memphis, TN			Corn gluten feed, 21% protein, Midwest			Corn gluten meal, 60% protein, Midwest		
	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16
Oct	443.63	381.50	327.97	355.00	346.88	292.50	157.50	90.13	96.00	601.25	549.38	509.38
Nov	451.13	441.40	308.60	345.00	313.13	291.88	158.38	105.13	109.63	631.25	581.88	477.50
Dec	498.31	431.74	289.78	401.88	334.38	265.00	168.00	143.30	113.13	638.13	613.50	482.25
Jan	479.54	380.03	279.57	378.34	313.75	248.75	165.00	135.25	109.63	625.00	632.50	452.50
Feb	509.25	370.39	273.61	388.75	302.50	238.13	167.50	117.25	102.38	668.13	631.25	457.50
Mar	497.82	357.83	276.23	401.25	310.50	216.50	177.63	107.20	87.00	744.38	613.00	445.50
Apr	514.01	336.61	303.81	405.50	288.13	207.50	166.60	83.13	73.25	784.00	575.63	434.00
May	519.38	320.23	376.36	416.88	274.38	242.50	157.00	72.25	87.00	761.25	549.38	464.10
Jun	501.72	335.03	400.44	412.50	281.00	284.00	131.88	74.40	107.13	694.50	571.60	568.13
Jul	450.79	375.48	371.49	359.50	299.38	280.00	113.70	91.25	95.01	574.00	560.00	573.13
Aug	490.33	357.85		310.00	295.63		109.25	88.75		572.88	550.63	
Sep	525.72	333.63		360.63	293.50		98.70	95.50		587.50	525.00	
Mkt yr	490.13	368.48		377.93	304.43		147.59	100.29		656.86	579.48	

	Meat and bone meal, Central US			Distillers dried grains, Central Illinois, IL			Wheat middlings, Kansas City, MO			Alfalfa hay, weighted-average farm price 2/	
	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16	2013/14	2014/15	2015/16	2014/15	2015/16
Oct	385.53	385.00	291.88	216.50	96.00	123.13	153.37	111.48	105.93	193.00	156.00
Nov	410.95	383.79	266.25	217.13	113.13	132.63	138.69	106.87	106.53	182.00	150.00
Dec	459.57	424.22	221.67	220.50	159.30	133.13	198.00	135.83	99.55	180.00	150.00
Jan	456.88	382.49	200.13	200.00	186.50	132.50	151.62	140.93	104.16	170.00	147.00
Feb	438.75	370.63	193.75	214.38	187.13	136.63	150.24	124.85	97.89	167.00	142.00
Mar	501.25	376.00	261.00	245.00	189.50	134.50	156.62	1,118.55	68.64	169.00	144.00
Apr	560.00	390.63	316.25	243.50	191.00	122.38	133.38	81.93	65.12	183.00	153.00
May	516.25	368.75	310.10	222.75	178.50	141.10	131.07	64.25	60.72	192.00	147.00
Jun	506.88	313.50	295.00	184.50	157.50	170.50	102.43	60.27	57.94	178.00	142.00
Jul	489.83	333.75	381.67	148.00	153.50	149.38	70.36	77.96	61.48	169.00	
Aug	464.37	388.75		116.88	115.13		81.24	92.72		159.00	
Sep	435.00	344.00		123.00	139.30		106.62	112.67		157.00	
Mkt yr	468.77	371.79		196.01	155.54		131.14	185.69		196.00	163.00

1/ October 1-September 30 except for hay. Simple average of monthly prices for the marketing year except for hay.

2/ May 1-April 30 marketing year. U.S. season-average price based on monthly price received by farmers weighted by monthly marketings.

Source: USDA, Agricultural Marketing Service, http://marketnews.usda.gov/portal/lg, and USDA, National Agricultural Statistics Service, http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp.

Table 5--Corn: Food, seed, and industrial use (million bushels), 8/16/2016

Mkt year and qtr 1/		High-fructose corn syrup (HFCS)	Glucose and dextrose	Starch	Alcohol for fuel	Alcohol for beverages and manufacturing	Cereals and other products	Seed	Total food, seed, and industrial use
2014/15	Q1 Sep-Nov	116.78	74.64	62.41	1,276.24	34.52	50.11	0.00	1,614.69
	Q2 Dec-Feb	110.32	71.95	59.76	1,293.93	36.18	49.95	0.00	1,622.10
	Q3 Mar-May	123.73	77.29	50.18	1,294.53	37.85	50.47	27.72	1,661.77
	Q4 Jun-Aug	128.08	75.96	43.19	1,335.39	33.64	50.68	1.54	1,668.46
	MY Sep-Aug	478.91	299.83	215.53	5,200.09	142.19	201.21	29.26	6,567.02
2015/16	Q1 Sep-Nov	110.81	72.34	62.30	1,300.20	34.89	50.62	0.00	1,631.16
	Q2 Dec-Feb	115.06	70.21	59.91	1,313.32	36.58	50.43	0.00	1,645.49
	Q3 Mar-May	124.73	77.13	59.70	1,251.02	38.27	50.92	27.93	1,629.70
	MY Sep-Aug	470.00	300.00	220.00	5,200.00	143.00	203.10	30.56	6,566.66
2016/17	MY Sep-Aug	470.00	310.00	220.00	5,275.00	144.00	202.10	28.90	6,650.00

1/ September-August. Latest data may be preliminary or projected.

Source: Calculated by USDA, Economic Research Service.

Date run: 8/16/2016

Table 6--Wholesale corn milling product and byproduct prices, 8/16/2016

Mkt year and month 1/	Corn meal, yellow, Chicago, IL (dollars per cwt)		Corn meal, yellow, New York, NY (dollars per cwt)		Corn starch, Midwest 3/ (dollars per cwt)		Dextrose, Midwest (cents per pound)		High-fructose corn syrup (42%), Midwest (cents per pound)	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
Sep	17.32	17.80	18.99	19.47	14.14	14.20	34.50	37.00	21.25	23.25
Oct	17.44	17.96	19.11	19.63	13.30	14.29	34.50	37.00	21.25	23.25
Nov	18.44	17.53	20.14	19.20	12.91	14.95	34.50	37.00	21.25	23.25
Dec	18.89	17.50	20.56	19.17	13.90	14.80	34.50	37.00	21.25	23.25
Jan	18.94	17.42	20.61	19.09	14.11	14.62	37.00	39.00	23.25	26.75
Feb	18.71	17.44	20.39	19.11	13.93	14.35	37.00	39.00	23.25	26.75
Mar	18.51	17.13	20.06	18.92	13.90	14.71	37.00	39.00	23.25	26.75
Apr	17.90	17.70	19.57	19.37	14.08	14.71	37.00	39.00	23.25	26.75
May	17.62	18.21	19.29	19.88	14.50	15.10	37.00	39.00	23.25	26.75
Jun	17.81	18.27	19.48	19.94	14.50	15.40	37.00	39.00	23.25	26.75
Jul	18.40	17.03	20.07	18.70	14.41	15.43	37.00	39.00	23.25	26.75
Aug	17.65	16.61	19.32	18.28	15.37		37.00	39.00	23.25	26.75
Mkt year 2/	18.14	17.55	19.80	19.23	14.09		36.17	38.33	22.58	25.58

1/ September-August. Latest month is preliminary.
2/ Simple average of monthly prices for the marketing year.
3/ Bulk-industrial, unmodified.
Source: Milling and Baking News, except for corn starch which is from private industry.

Date run: 8/15/2016

Table 7--U.S. feed grain imports by selected sources (1,000 metric tons) 1/, 8/16/2016

Import and country/region		---------- 2014/15 ----------		---------- 2015/16 ----------		2016/17
		Mkt year	Jun	Mkt year	Jun	Jun
Oats	Canada	1,731	133	1,379	108	101
	Sweden	72		62		
	Finland	62	18	34		
	All other countries	12	3	0	0	0
	Total 2/	1,876	154	1,475	108	101
Malting barley	Canada	334	40	283	17	10
	All other countries	28	0	0		0
	Total 2/	362	40	284	17	10
Other barley 3/	Canada	147	20	116	14	6
	All other countries	4	1	4	1	0
	Total 2/	152	20	119	15	6

1/ Grain only. Market year (June-May) and market year to date.
2/ Totals may not add due to rounding.
3/ Grain for purposes other than malting, such as feed and seed use.
Source: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Statistics.

Date run: 8/15/2016

Table 8--U.S. feed grain exports by selected destinations (1,000 metric tons) 1/, 8/16/2016

Export and country/region		---------- 2013/14 ---------- Mkt year	Sep-Jun	---------- 2014/15 ---------- Mkt year	Sep-Jun	2015/16 Sep-Jun
Corn	Japan	11,939	9,528	12,003	9,631	7,732
	Mexico	10,490	8,661	11,333	9,038	11,005
	South Korea	4,961	3,308	3,934	3,061	1,677
	Colombia	3,562	3,225	4,371	3,814	4,019
	China (Mainland)	2,732	2,706	747	622	262
	Egypt	2,710	2,222	1,235	869	520
	China (Taiwan)	1,781	1,659	1,839	1,507	1,359
	Peru	1,246	1,003	2,555	2,204	1,909
	European Union-27	1,204	717	361	151	226
	Venezuela	1,128	978	710	485	822
	Saudi Arabia	1,031	888	1,185	939	1,049
	Guatemala	752	631	852	645	715
	Dominican Republic	596	469	607	523	197
	Costa Rica	593	504	774	649	416
	Vietnam	509	509	11	11	245
	Canada	479	290	1,490	1,252	820
	Israel	469	372	26	26	139
	El Salvador	409	304	538	423	553
	Honduras	375	295	428	335	451
	Panama	333	275	450	349	303
	Jamaica	283	235	282	230	225
	Morocco	202	114	298	298	272
	Cuba	137	137	26	26	59
	Nicaragua	121	94	191	166	190
	Indonesia	116	105	45	45	153
	All other countries	631	527	1,128	1,014	1,326
	Total 2/	48,790	39,756	47,421	38,313	36,644
Sorghum	China (Mainland)	4,260	2,736	8,328	6,788	6,080
	Sub-Saharan Africa	444	421	486	432	501
	Japan	293	290	83	83	68
	Mexico	251	242	21	19	511
	All other countries	112	42	17	14	268
	Total 2/	5,359	3,730	8,935	7,336	7,428

		---------- 2014/15 ---------- Mkt year	Jun	---------- 2015/16 ---------- Mkt year	Jun	2016/17 Jun
Barley	Mexico	99	11	142	16	
	Japan	90	4	5	0.896	1
	Canada	52	2	52	9	7
	China (Taiwan)	32	2	7	1	0.735
	All other countries	38	1	30	3	0.147
	Total 2/	311	20	235	31	10

1/ Grain only. Market year (September-August for corn and sorghum, June-May for barley) and market year to date.
2/ Totals may not add due to rounding.
Source: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Statistics.

Date run: 8/15/2016