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Feed Outlook

Tom Capehart
tcapehart@ers.usda.gov
Olga Liefert
oliefert@ers.usda.gov

U.S. Corn Production Lowered

The next release is February 13, 2017.

Approved by the World Agricultural Outlook Board.

Feed grain balance sheets for 2016/17 are nearly steady this month, with the most significant changes a 25-million bushel increase in corn used for ethanol, a 50-million bushel cut in feed and residual use, and minor changes resulting from NASS stocks data. Season-average prices for corn are forecast $0.05 per bushel higher than last month at $3.40, and sorghum prices are lowered $0.15 per bushel to $2.90. The forecast season-average price for barley and oats is raised $0.05 per bushel to $4.90 and $1.95, respectively.

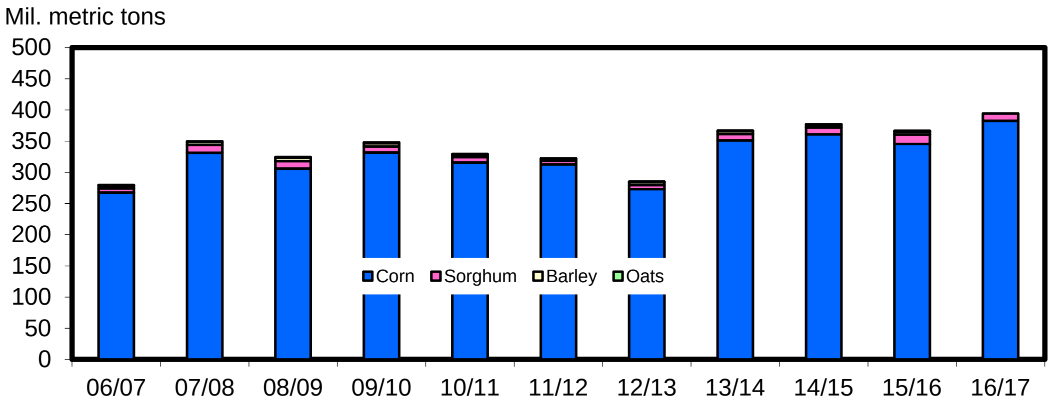
Global coarse grain production for 2016/17 is projected down 1.7 million tons this month to 1,327.7 million. The decline in U.S. corn production drives the reduced global forecast; changes in foreign coarse grains production and the rest of the supply and demand balance are minor.

Domestic Outlook

Corn Crop Reduced From Last Month

USDA's National Agricultural Statistics Service (NASS) *Crop Production* report lowered both planted and harvested acreage for 2016/17 based on the latest information from the December Agricultural and Objective Yield Surveys. Planted area is reduced 486,000 acres to 94.0 million, and harvested acreage dropped 88,000 acres to 86.7 million. NASS also lowered the estimated corn yield by 0.7 bushels per acre, to 174.6 bushels per acre. U.S. production is estimated at a record 15,148 million bushels. With a 5-million-bushel increase in projected corn imports to 55 million bushels and a slight decline in beginning stocks, supply is projected at a record 16,940 million bushels, down 73.2 million from last month but 1.5 billion higher than 2015/16.

Figure 1
U.S. feed grain production

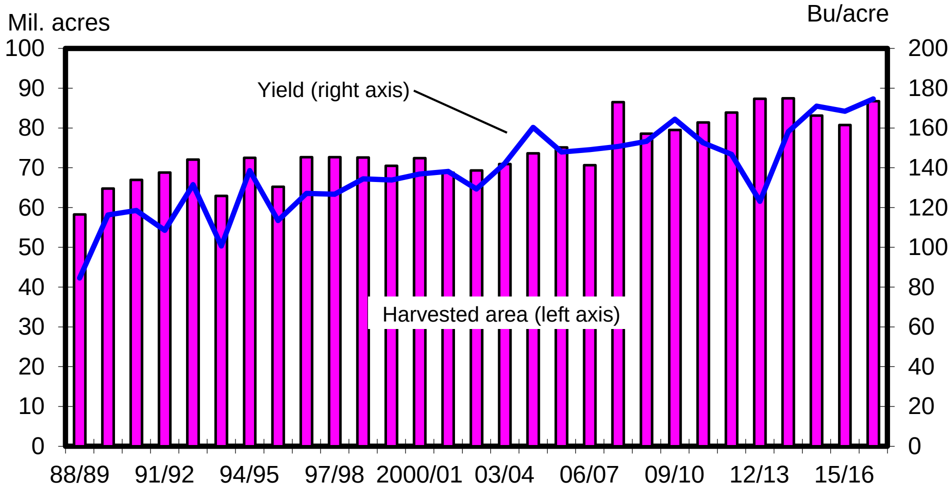


Source: USDA, World Agricultural Outlook Board, W*ASDE* and USDA, National Agricultural Statistics Service, *Crop Production*.

Disappearance Projected Lower

Disappearance for 2016/17 is projected at 14,585 million bushels, down 25 million from last month's forecast but 922 million higher than 2015/16. Feed and residual use is lowered 50 million bushels this month, reflecting a smaller crop, greater sorghum feeding, increased corn used for ethanol, and higher expected prices. At 5,600 million bushels, feed and residual is 469 million higher than last year. The NASS *Grain Stocks* report estimated December 1 corn stocks at 12,384 million bushels. For the first quarter (September-November), feed and residual use is 2,279 million bushels, up from 2,178 million a year earlier.

Fig. 2
U.S. corn harvested area and yield

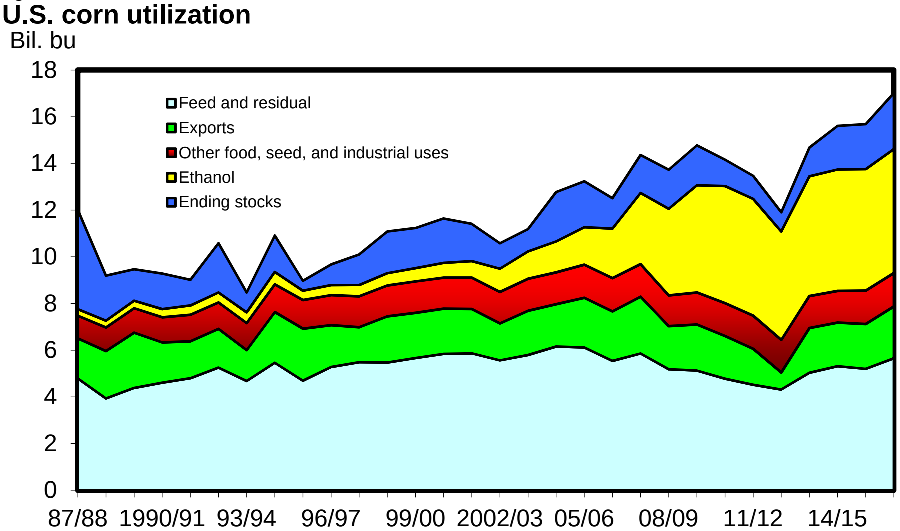


Sources: USDA, National Agricultural Statistics Service, *Quick Stats* and USDA, World Agricultural Outlook Board, *WASDE.*

Corn FSI Use Boosted

Food, seed, and industrial (FSI) use of corn is raised 25 million bushels on higher projected corn used for ethanol. Weekly data from the U.S. Energy Information Administration (EIA) indicates strong production during the mid-winter season, while the latest information from NASS's *Grain Crushings and Co-Products Production* report estimated a record high amount of corn used to produce ethanol during September-November. Corn used for ethanol is now forecast at 5,325 million bushels. With no changes in other categories, total FSI use for 2016/17 is now projected at 6,760 million bushels, up from an estimated 6,635 million in 2015/16.

Figure 3
U.S. corn utilization

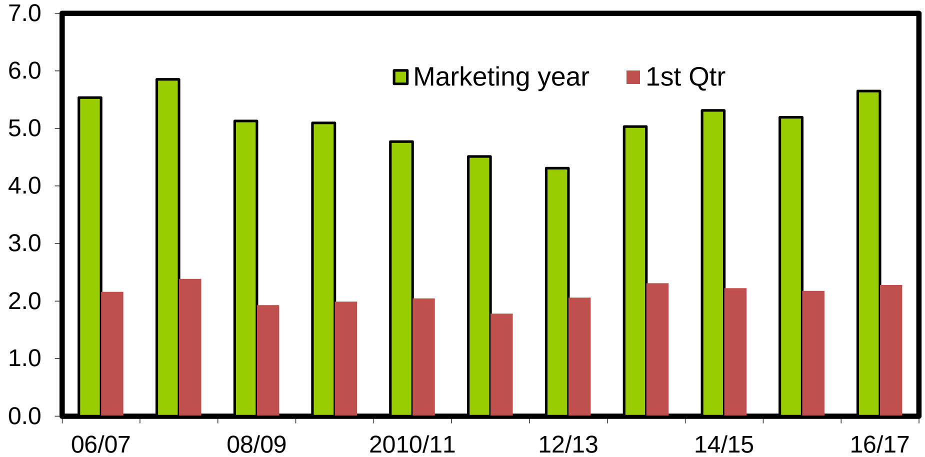


Note: Marketing years. 2015/16 and 2016/17 are projected.
Source: USDA, World Agricultural Outlook Board, *WASDE.*

Feed and Residual Use for Four Grains Plus Wheat

On a September-August basis, 2016/17 U.S. feed and residual use for the four feed grains plus wheat is projected lower from last month's forecast at a total of 155.6 million tons, 16.9 million above the total of 138.7 million for 2015/16. Corn is forecast to account for 91 percent of feed and residual use in 2016/17, down from 94 percent in 2015/16.

Figure 4
U.S. corn feed and residual use: Marketing year and first quarter (Bil. bushels)



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

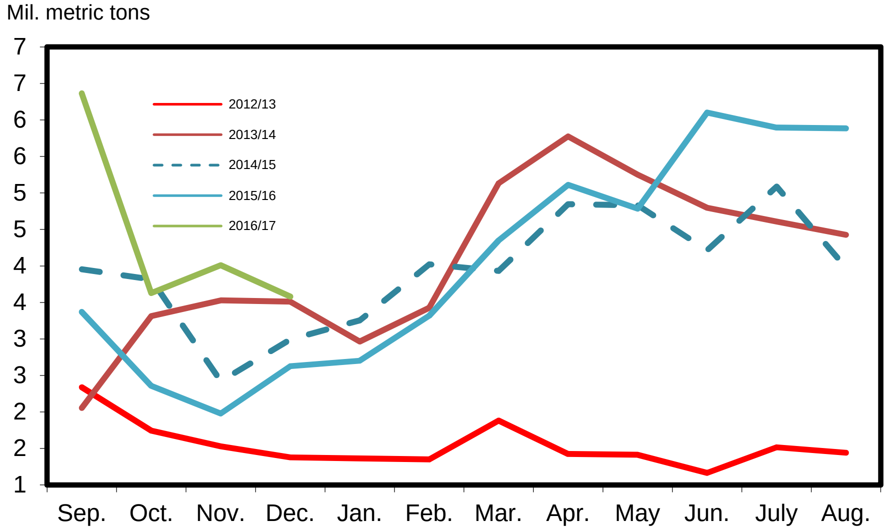
The projected index of grain consuming animal units (GCAU) in 2016/17 is 95.80 million units, up from 94.87 in December and up 1.64 million units from 2015/16. Feed and residual per GCAU for 2016/17 is estimated at 1.62 million tons, down from last month and up 0.15 million tons from 2015/16. In the index components, GCAUs are raised this month based largely on greater projected hog numbers as reflected in NASS's December 23, 2016, *Quarterly Hogs and Pigs* report, which indicated a 5-percent year-over-year increase in the September-November pig crop that will be slaughtered largely in April-June 2017.

Small Changes to 2015/16 Balance Sheet

U.S. corn production was raised 0.766 million bushels to 13,602 million as harvested acreage was estimated slightly higher. Planted acres were also raised. The increased supply and lower ending stock estimate from NASS's *Grain Stocks* report resulted in a 1.5-million-bushel increase in feed and residual use, which resulted in total use of 13,664 million bushels. Ending stocks were lowered 0.713 million bushels to 1,737 million.

Figure 5

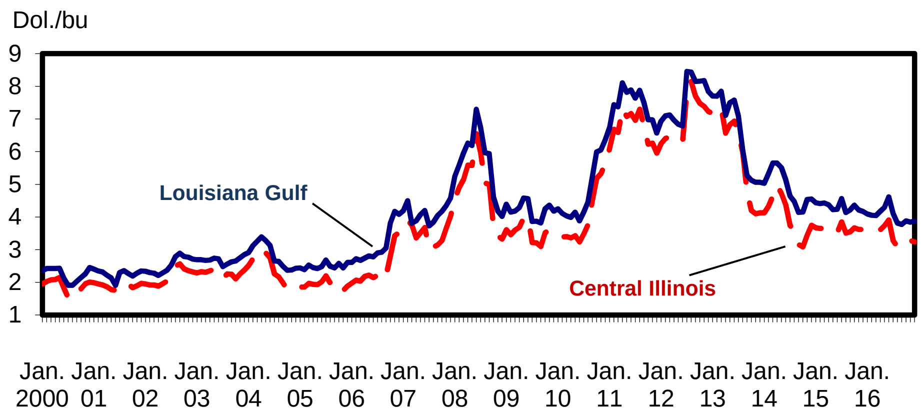
U.S. corn exports



Source: USDC, U.S. Census Bureau, December 2016 *Grain Inspections.*

Figure 6

Monthly corn (yellow #2) prices for Central Illinois and Louisiana Gulf



Sources: USDA, Economic Research Service, *Feed Grains Database* and USDA, Agricultural Marketing Service, http://marketnews.usda.gov/portal/lg.

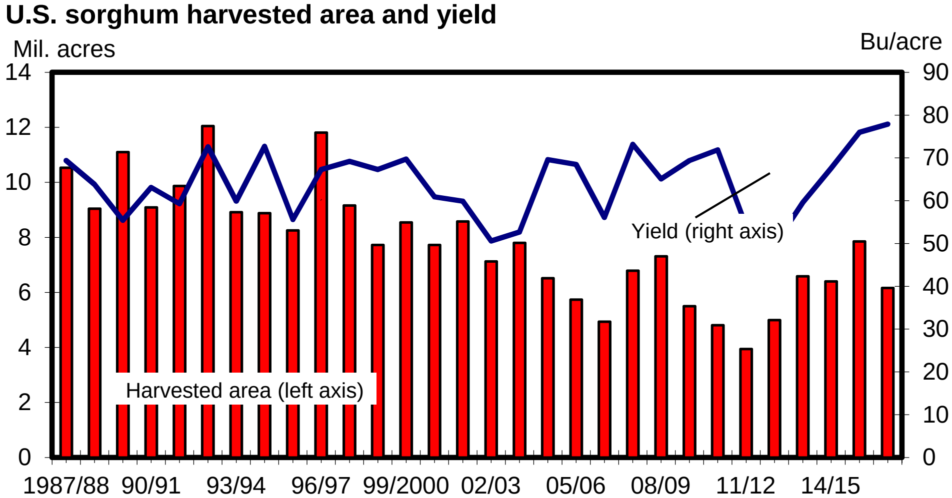
Corn Price Raised

The forecast average price received by corn producers for 2016/17 is raised $0.05 on both the low and high ends of the range to $3.10 to $3.70 per bushel, for a midpoint of $3.40 per bushel, up $0.05 at the midpoint from the previous forecast. The corn price increase reflects higher sales prices year-to-date and expectations of higher prices for the other major field crops such as soybeans and wheat.

Sorghum Supply Raised This Month

U.S. sorghum supply for 2016/17 was raised 18.1 million bushels this month to 517.9 million, 16 percent below last year's supply of 619.7 million. A fractional decline estimated in carryin was more than offset by the 18.1-million-bushel production increase. On the demand side, the only change is a 15-million-bushel increase in feed and residual, now forecast at 105 million for the season, reflecting relatively competitive sorghum prices in interior markets and indicated disappearance during September-November from the *Grain Stocks* report. Total use is projected at 480 million bushels. Sorghum ending stocks for 2016/17 are projected 3.2 million bushels higher at 37.9 million bushels but are still within a bushel of 2015/16 carryout.

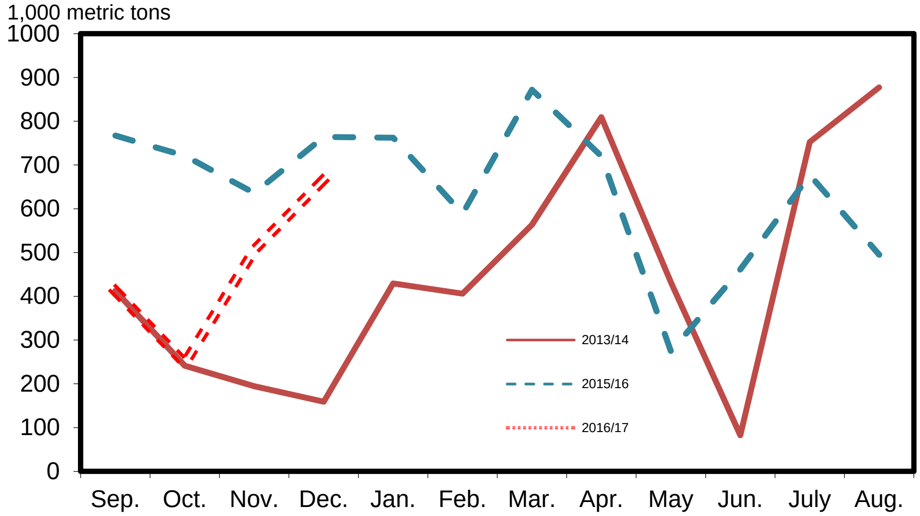
Figure 7
U.S. sorghum harvested area and yield



Sources: USDA, National Agricultural Statistics Service, *Quick Stats* and USDA, World Agricultural Outlook Board, *WASDE.*

For 2015/16, a marginal decline in estimated ending stocks results in a fractional increase in estimated feed and residual. Ending stocks are estimated at 36.6 million bushels.

Figure 8
U.S. sorghum exports

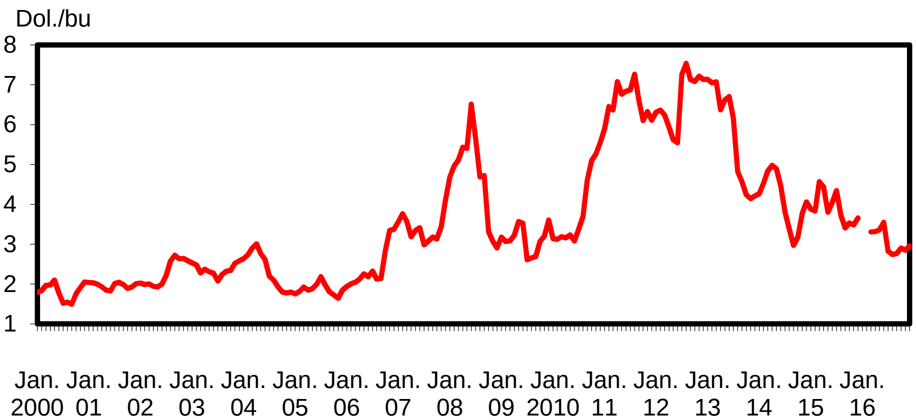


Source: USDC, U.S. Census Bureau, December 2016, *Grain Inspections.*

Sorghum Price Lowered

The forecast average price received by producers for 2016/17 is lowered $0.15 on both the high and low ends of the range to $2.65 to $3.15 per bushel, for a midpoint of $2.90 per bushel The large corn crop has weighed on prices for sorghum.

Figure 9
Monthly grain sorghum (yellow #2) prices for Kansas City



Sources: USDA, Economic Research Service, *Feed Grains Database* and USDA, Agricultural Marketing Service, http://marketnews.usda.gov/portal/lg.

Barley and Oats

A small increase in carryin due to a NASS revision to estimated June 1 barley stocks combined with a 2-million-bushel decline in imports to lower U.S. supply 2.0 million bushels to 317.4 million bushels. On the demand side, feed and residual is lowered 5 million bushels to 55 million reflecting indicated disappearance during the first half of the marketing year, while exports are projected down 2 million to 6 million bushels based on year-to-date shipments. This leaves ending stocks of 103.4 million bushels, up 5 million from last month.

The barley price received by farmers for 2016/17 is raised $0.05 on each end of the range to $4.60 to $5.20 per bushel. The projected midpoint price is projected at $4.90, down from $5.52 per bushel last year.

Oats supply is unchanged for 2016/17 with the exception of a fractional decline in carryin caused by a reduction estimated in 2015/16 ending stocks as indicated in NASS's *Grain Stocks* report. This is carried through the 2016/17 balance sheet, pushing ending stocks down by the same fractional amount. As with barley, there is a $0.05 per bushel increase in both the high and low end of the range to $1.80 to $2.10 per bushel for a midpoint price of $1.95 per bushel. In both cases, the price response maintains the historical relationship between corn and other feed grains, while also reflecting recent price strength in the oats market.

International

World Coarse Grain Production Down Marginally

Global coarse grain production in 2016/17 is projected slightly lower this month at 1,327.7 million tons, down 1.7 million, just a 0.1-percent decline. Reduced estimated U.S. production drives the drop, with foreign production forecast down 0.2 million tons to 925.1 million. Foreign corn production is slightly up by 0.2 million tons this month with a number of offsetting changes, while foreign barley prospects are reduced 0.7 million tons, millet is up 0.1 million, sorghum is trimmed 0.1 million, and rye is raised 0.2 million tons.

For at a glance information and specific causes of the revisions and details of this month's changes in coarse grain production, see tables A1 and A2. The changes in global, foreign, and U.S coarse grain production by type of grain are shown in table A1, while changes in coarse grain production by country and type of grain are given in table A2.

Table A1 - World and U.S. coarse grain production at a glance (2016/17), January 2017

Region or country	Production	Change[1]	Comments
	Million tons		
Coarse grain production (total)			
World	1,329.4	-1.7	
Foreign	925.1	-0.2	
United States	402.6	-1.5	
World production of coarse grains by type of grain			
CORN			
World	1,037.9	-1.8	
Foreign	653.2	+0.2	Slightly higher corn production in Serbia is being offset by a decline in Bolivia. See table A2.
United States	386.8	-2.0	
SORGHUM			
World	64.1	+0.4	
Foreign	51.9	-0.1	A reduction in Bolivia. See table A2.
United States	12.2	+0.5	
BARLEY			
World	144.1	-0.7	
Foreign	139.7	-0.7	Reductions are projected for Russia and Argentina. See table A2.
United States	4.3	*No change*	
RYE			
World	13.1	+0.2	
Foreign	12.8	+0.2	An increase in Russia. See table A2.
United States	0.3	*No change*	

[1]Change from previous month. **For changes by country, see table A2.**

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

Table A2 - Coarse grain production by country at a glance, January 2017					
	Type of crop	Crop year	Production	Change[1]	Comments
			Million tons		
Coarse grain production by country and by type of grain (2016/17)					
SERBIA					
↑	Corn	Oct-Sep	7.5	+0.5	Serbia borders Hungary to the north and shared its exceptionally good weather throughout the season. Hungary had a record corn crop this year. Additional Serbian corn is expected to be exported.
RUSSIA					
↓	Barley	July-June	17.5	-0.5	Preliminary harvest results were issued by the Russian statistical agency ROSSTAT.
↑	Rye	July-June	2.5	+0.2	Preliminary harvest results were issued by the Russian statistical agency ROSSTAT.
↑	Oats	July-June	4.8	+0.1	Preliminary harvest results were issued by the Russian statistical agency ROSSTAT.
↑	Millet	July-June	0.6	+0.1	Preliminary harvest results were issued by the Russian statistical agency ROSSTAT.
BOLIVIA					
↓	Corn	July-June	0.1	-0.3	Drought was persisting over the reproduction period, and November rains arrived too late for replanting the crop. Yields were almost halved, and harvested area was cut severely. Production is at a record low, and yields are the lowest since 1983/84.
↓	Sorghum	Oct-Sep	< 0.1	-0.1	The drought virtually wiped out the sorghum crop; is it estimated at less than 0.1 million tons (at 25,000 tons).
ARGENTINA					
↓	Barley	Dec-Nov	3.2	-0.2	Lower barley yield is projected as dry conditions persisted from October through mid-December. Rains commenced at the end of December, but as barley has a shorter growing season than wheat, late rains did not give the crop an opportunity to recover.
Coarse grain production by country and by type of grain (2014/15)					
ARGENTINA					
↑	Corn	Dec-Nov	29.8	+1.1	Corn output for **2014/15** marketing year is revised up. High reported corn exports and estimates of domestic utilization based on various information sources imply higher production in 2014/15. Weather conditions during the 2014/15 growing season were excellent.

[1]Change from previous month.

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

World Consumption Trimmed, With U.S. Drop Partly Offset

Global coarse grain use in 2016/17 is projected up slightly by 0.3 million tons this month to 1,319.5 million. Increased projected foreign use is more than offsetting a 0.4-million-ton decline in forecast U.S. coarse grain consumption with lower corn and barley feed use and increased sorghum use (see domestic section of the report). The largest increased corn use for feeding is projected for Brazil, up 0.5 million tons this month. Brazilian livestock (pork and poultry) is expected to grow by about 2-3 percent this year, and the increase is setting corn feeding in line with this growth, while the massive recent imports of corn from Argentina and Paraguay support this increase.

For more information and a visual display of this month's changes in corn feed and residual use, see table B and map B.

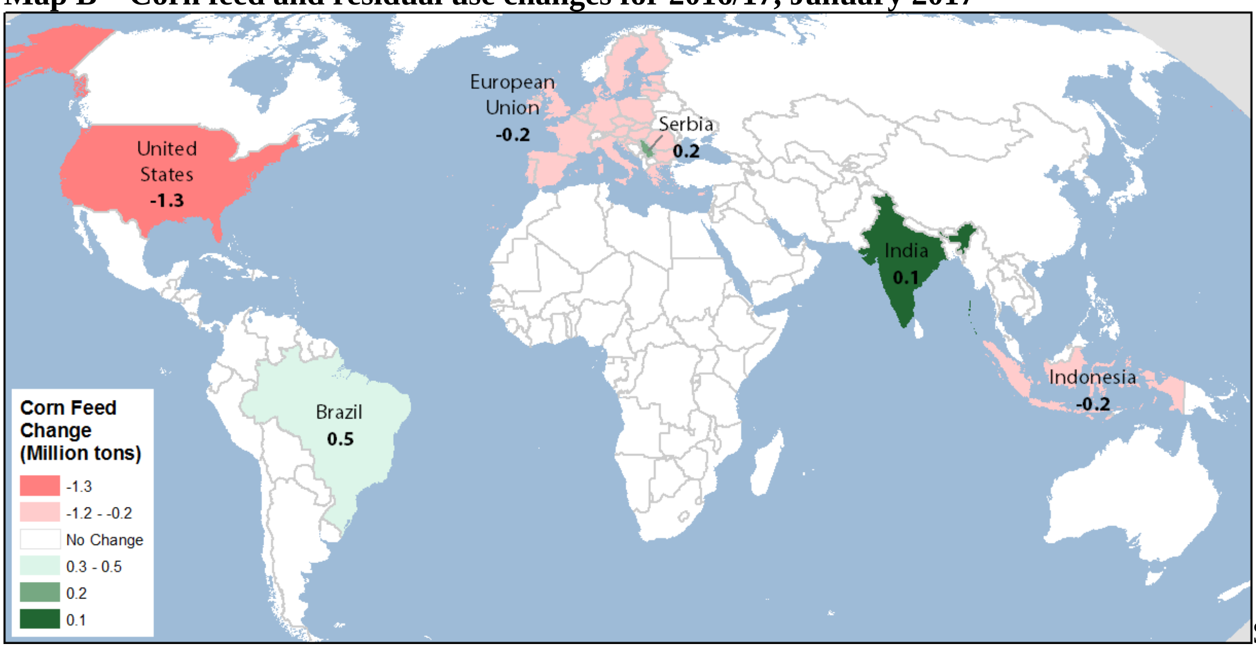
	Country or region	Feed and residual	Change[1]	Comments
		Million tons		
↓	World	626.0	-0.9	
↑	Foreign	483.8	+0.4	
↓	United States	142.3	-1.3	
↑	Brazil	49.5	+0.5	Animal numbers for pork and poultry are expected to grow by about 2-3 percent in Brazil, and the projected increase is setting corn feeding in line with this growth. Massive recent imports of ***corn*** from Argentina and Paraguay support the increase.

Table B - Corn feed and residual use at a glance (2016/17), January 2017

[1]Change from previous month. Smaller changes are made for a number of countries, see map B for changes in ***corn*** feeding.

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

Map B – Corn feed and residual use changes for 2016/17, January 2017



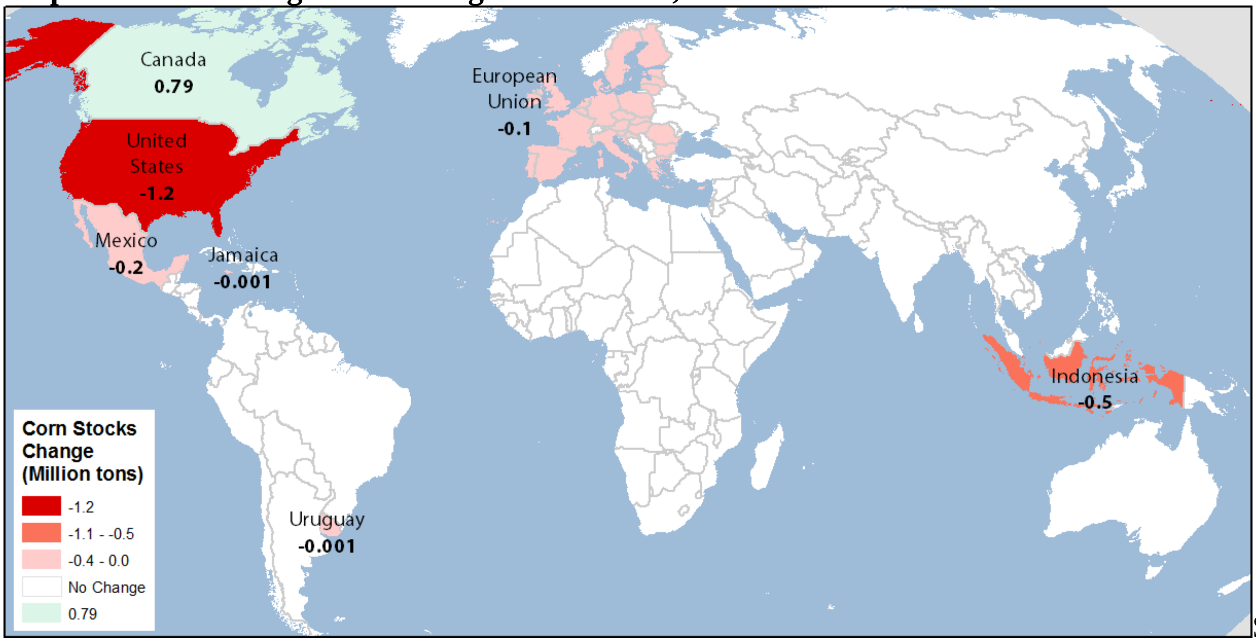
Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution online database.

Projected Global Ending Stocks Reduced

World coarse grain ending stocks for 2014/15 are projected down 1.1 million tons this month to 253.8 million, with most of the reduction in the United States. Foreign coarse grain ending stocks are largely unchanged and forecast down just 0.1 million tons to 190.1 million. Foreign corn ending stocks are forecast down fractionally this month at 161.2 million tons, with offsetting country adjustments. Barley foreign stocks are reduced 0.3 million tons to 20.8 million, while rye stocks are up 0.3 million tons to 1.4 million.

For a visual display of the changes in corn ending stocks, see map C.

Map C – Corn ending stocks changes for 2016/17, December 2016



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

World Corn Trade Slightly Up, U.S. Exports Unchanged

World corn trade for the international trade year (October-September) in 2016/17 is projected at 142.1 million tons, up 0.4 million this month. U.S. corn exports are forecast at 56.5 million tons, unchanged this month, and up 5.3 million tons, or 10 percent, from the previous trade year. Census exports for October-November 2016 reached 7.6 million tons, abruptly up from 4.3 million a year earlier. December grain inspections were also robust at 3.6 million tons, down from 2.5 million a year ago. As of January 5, 2017, outstanding sales of corn reached 19.3 million tons, up 8.2 million from the previous year. However, in coming months, U.S. sales and shipments are expected to slow down, partly due to increased competition from Brazil and Argentina, where the upcoming corn harvest will pose a serious challenge to U.S. exporters.

For information on this month's main changes in 2016/17 corn trade with country-specific details, see table D.

Table D - Corn trade at a glance (2016/17), January 2017

	Country or region	Trade	Change[1]	Comments
		Million tons		*October-September international trade year*
↑	**World**	**142.1**	**+0.4**	
↑	**Foreign**	**85.6**	**+0.4**	
Corn Exports (2016/17)				
↑	**Serbia**	**22.0**	**+0.3**	An increase in corn production. Exports are projected at about one-third of corn output. Exports go to the European Union, entering it in Romania, and to neighboring Bosnia-Herzegovina, Macedonia, and Albania, where they are often re-exported to the EU (mainly to Italy).
↑	**European Union**	**2.0**	**+0.2**	Higher-than-expected recent pace of corn exports to Egypt, Iran, Israel, Vietnam, and Syria.
↓	**India**	**0.6**	**-0.1**	High domestic prices made Indian wheat uncompetitive even in neighboring countries, and are reducing its habitual exports to Nepal and Bangladesh.
Corn Imports (2016/17)				
↑	**United States**	**1.4**	**+0.2**	Increased imports of organic corn (mainly from Turkey) to produce organic milk and eggs.
↑	**Brazil**	**1.8**	**+0.7**	Brazil still endures the aftermath of its 2015/16 disastrous corn crop and has to fill up the shortage by importing corn to feed its swine herd and chicken flock. Brazilian local marketing year starts in March, and the country has been importing nontrivial amounts of corn in recent months (e.g., more than a million tons from Argentina and Paraguay).
↑	**Bolivia**	**0.5**	**+0.3**	With about 15 percent of its usual corn harvest lost to drought, Bolivia is attempting to at least partly compensate for the shortage. It imports corn mainly from Argentina but also from Brazil, Chile, and other countries in the region.
↓	**Indonesia**	**1.0**	**-0.7**	Government is trying to reinforce its regulations, and is aiming at virtual elimination of corn imports in Indonesia. However, local corn production is still unable to provide enough feed for its growing poultry flock, and the country continues to import smaller amounts of corn mainly from Brazil and Argentina.

[1]Change from previous month.

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

Contacts and Links

Contact Information

Tom Capehart (domestic), (202)-694-5313, tcapehart@ers.usda.gov
Olga Liefert,(international), (202)-694-5155, oliefert@ers.usda.gov

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Feed Grains Database (http://ers.usda.gov/data-products/feed-grains-database.aspx) is a queryable database that contains monthly, quarterly, and annual data on prices, supply, and use of corn and other feed grains. This includes data published in the monthly Feed Outlook and the annual Feed Yearbook reports.

Related Websites

Feed Outlook
(http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1273
WASDE)
(http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1194)
Grain Circular
(http://www.fas.usda.gov/grain/Current/default.asp)
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(http://www.fas.usda.gov/wap_arc.asp)
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Table 1--Feed grains: U.S. quarterly supply and disappearance (million bushels), 1/17/2017

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	1,684	845	636	3,165	3,852	4.63
		Jun-Aug	3,852		6	3,858	1,696	385	544	2,626	1,232	4.06
		Mkt yr	821	13,829	36	14,686	6,532	5,001	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	1,675	1,092	540	3,307	4,453	3.75
		Jun-Aug	4,453		11	4,464	1,690	517	526	2,733	1,731	3.69
		Mkt yr	1,232	14,216	32	15,479	6,601	5,280	1,867	13,748	1,731	3.70
	2015/16	Sep-Nov	1,731	13,602	13	15,346	1,631	2,178	301	4,111	11,235	3.65
		Dec-Feb	11,235		18	11,253	1,652	1,438	340	3,431	7,822	3.64
		Mar-May	7,822		20	7,842	1,645	925	561	3,131	4,711	3.60
		Jun-Aug	4,711		17	4,728	1,706	590	695	2,991	1,737	3.55
		Mkt yr	1,731	13,602	67	15,401	6,635	5,131	1,898	13,664	1,737	3.61
	2016/17	Sep-Nov	1,737	15,148	14	16,899	1,685	2,279	551	4,516	12,384	3.25
		Mkt yr	1,737	15,148	55	16,940	6,760	5,600	2,225	14,585	2,355	3.10-3.70
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	22.14	159.65	114.44	296.23	322.54	3.54
		Dec-Feb	322.54		0.98	323.51	47.05	-11.46	86.33	121.93	201.58	3.17
		Mar-May	201.58		0.01	201.59	42.75	-4.99	73.47	111.24	90.35	3.10
		Jun-Aug	90.35		0.01	90.36	29.75	-40.37	64.35	53.73	36.63	3.33
		Mkt yr	18.41	596.75	4.59	619.75	141.70	102.83	338.59	583.12	36.63	3.31
	2016/17	Sep-Nov	36.63	480.26	0.00	516.90	21.51	138.23	45.86	205.60	311.30	2.62
		Mkt yr	36.63	480.26	1.00	517.89	125.00	105.00	250.00	480.00	37.89	2.65-3.15

Table 1--Feed grains: U.S. quarterly supply and disappearance, cont. (million bushels), 1/17/2017

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	218	4	301	40	38	3	82	219	5.39
		Sep-Nov	219		4	223	38	0	4	43	180	5.52
		Dec-Feb	180		7	187	37	10	3	50	138	5.66
		Mar-May	138		4	141	38	1	1	39	102	5.43
		Mkt yr	79	218	19	315	153	50	11	213	102	5.52
	2016/17	Jun-Aug	102	199	2	304	40	33	1	73	230	4.99
		Sep-Nov	230		2	232	38	1	1	40	193	4.73
		Mkt yr	102	199	16	317	153	55	6	214	103	4.60-5.20
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	19	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	Jun-Aug	57	65	21	142	18	45	1	64	79	1.86
		Sep-Nov	79		28	106	18	12	1	31	76	2.03
		Mkt yr	57	65	90	212	78	85	2	165	47	1.80-2.10

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: 1/12/2017

Table 2--Feed and residual use of wheat and coarse grains, 1/17/2017

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 (tons)
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	27.7	-0.4	0.1	0.2	27.6	-1.6	26.0		
	Q4 Jun-Aug	13.1	-1.4	0.8	0.8	13.3	8.1	21.4		
	MY Sep-Aug	134.1	2.1	0.7	1.6	138.5	4.2	142.7	92.4	1.5
2015/16	Q1 Sep-Nov	55.3	4.1	0.0	0.3	59.7	-2.9	56.8		
	Q2 Dec-Feb	36.5	-0.3	0.2	0.3	36.7	-0.0	36.7		
	Q3 Mar-May	23.5	-0.1	0.0	0.2	23.6	-1.0	22.6		
	Q4 Jun-Aug	15.0	-1.0	0.7	0.7	15.4	7.3	22.6		
	MY Sep-Aug	130.3	2.6	1.0	1.5	135.4	3.3	138.7	94.2	1.5
2016/17	Q1 Sep-Nov	57.9	3.5	0.0	0.2	61.7	-0.8	60.9		
	MY Sep-Aug	142.2	2.7	1.4	1.4	147.7	7.8	155.6	95.8	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, 1/17/2017

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)	
	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16
Sep	3.16	3.55	3.09	4.14	4.22	3.78	7.91	8.08
Oct	3.09	3.67	3.27	4.15	4.36	3.88	8.52	8.23
Nov	3.45	3.62	3.28	4.54	4.22	3.84	9.04	7.89
Dec	3.75	3.62	3.24	4.55	4.17	3.88	9.85	
Jan	3.67	3.55		4.44	4.09		10.41	
Feb	3.65	3.56		4.41	4.06		10.70	
Mar	3.66	3.54		4.43	4.05			
Apr	3.59	3.61		4.38	4.17		9.97	
May	3.49	3.74		4.23	4.30		7.44	
Jun	3.52	3.91		4.24	4.62			
Jul	3.85	3.28		4.56	4.11			
Aug	3.51	3.09		4.14	3.82		8.09	
Mkt year	3.53	3.56		4.35	4.18		9.10	8.07

	Barley, No. 2 feed, Minneapolis, MN (dollars per bushel)			Barley, No. 3 malting, Minneapolis, MN		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	2.61
Aug	2.58	2.41	2.08	5.79		3.83	2.63	2.34
Sep	2.30	2.39	1.95	5.98	4.95	3.86	2.70	2.29
Oct	2.44	2.57	2.00	7.28	4.95	3.68	2.58	2.67
Nov	2.48	2.60	2.00	7.35		3.53	2.67	2.84
Dec	2.68	2.60	2.00	7.35		3.49	2.64	2.92
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	4.95	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: 1/12/2017

Table 4--Selected feed and feed byproduct prices (dollars per ton), 1/17/2017

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		
	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17
Oct	381.50	327.97	323.26	346.88	292.50	241.88	90.13	96.00	77.00	549.38	509.38	466.13
Nov	441.40	308.60	322.42	313.13	291.88	221.00	105.13	109.63	83.55	581.88	477.50	477.50
Dec	431.74	289.78	321.03	334.38	265.00	217.50	143.30	113.13	142.07	613.50	482.25	542.50
Jan	380.03	279.57		313.75	248.75		135.25	109.63		632.50	452.50	
Feb	370.39	273.61		302.50	238.13		117.25	102.38		631.25	457.50	
Mar	357.83	276.23		310.50	216.50		107.20	87.00		613.00	445.50	
Apr	336.61	303.81		288.13	207.50		83.13	73.25		575.63	434.00	
May	320.23	376.36		274.38	242.50		72.25	87.00		549.38	464.10	
Jun	335.03	408.58		281.00	284.00		74.40	107.13		571.60	568.13	
Jul	375.48	371.49		299.38	280.00		91.25	95.01		560.00	573.13	
Aug	357.85	340.80		295.63	280.00		88.75	90.30		550.63	507.20	
Sep	333.63	337.95		293.50	285.00		95.50	85.38		525.00	469.38	
Mkt yr	368.48	324.56		304.43	260.98		100.29	96.32		579.48	486.71	

	Meat and bone meal, Central US			Distillers dried grains, Central Illinois, IL			Wheat middlings, Kansas City, MO			Alfalfa hay, weighted-average farm price 2/		
	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17
Oct	385.00	291.88	237.50	96.00	123.13	116.25	111.48	105.93	79.43	193.00	155.00	135.00
Nov	383.79	266.25	229.00	113.13	132.63	111.70	106.87	106.53	85.53	182.00	147.00	130.00
Dec	424.22	221.67	211.67	159.30	133.13	104.84	135.83	99.55	101.62	180.00	149.00	
Jan	382.49	200.13		186.50	132.50		140.93	104.16		170.00	141.00	
Feb	370.63	193.75		187.13	136.63		124.85	97.89		167.00	137.00	
Mar	376.00	261.00		189.50	134.50		1,118.55	68.64		169.00	139.00	
Apr	390.63	316.25		191.00	122.38		81.93	65.12		175.00	154.00	
May	368.75	310.10		178.50	141.10		64.25	60.72		187.00	147.00	
Jun	313.50	345.00		157.50	170.50		60.27	57.94		178.00	142.00	
Jul	333.75	381.67		153.50	149.38		77.96	61.48		172.00	140.00	
Aug	388.75	347.00		115.13	130.90		92.72	60.61		161.00	138.00	
Sep	344.00	285.63		139.30	127.75		112.67	64.43		160.00	137.00	
Mkt yr	371.79	285.03		155.54	136.21		185.69	79.42		196.00	158.00	

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

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), 1/17/2017

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	77.43	63.20	1,294.53	37.85	50.47	27.72	1,674.93
	Q4 Jun-Aug	128.24	78.13	62.11	1,335.39	33.64	50.68	1.54	1,689.73
	MY Sep-Aug	479.08	302.14	247.48	5,200.09	142.19	201.21	29.26	6,601.44
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	76.77	59.91	1,313.32	36.58	50.43	0.00	1,652.05
	Q3 Mar-May	124.71	92.65	59.70	1,251.13	38.27	50.92	27.93	1,645.30
	Q4 Jun-Aug	127.31	88.73	61.67	1,341.42	33.27	51.13	2.63	1,706.16
	MY Sep-Aug	477.89	330.49	243.57	5,206.06	143.00	203.10	30.56	6,634.66
2016/17	Q1 Sep-Nov	114.71	79.47	63.30	1,342.44	35.29	49.77	0.00	1,684.97
	MY Sep-Aug	480.00	325.00	250.00	5,325.00	146.00	204.60	29.50	6,760.10

1/ September-August. Latest data may be preliminary or projected.
Source: Calculated by USDA, Economic Research Service.

Date run: 1/12/2017

Table 6--Wholesale corn milling product and byproduct prices, 1/17/2017

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)	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
Sep	17.80	16.71	19.47	18.38	14.20	13.21	37.00	39.00	23.25	26.75
Oct	17.96	17.06	19.63	18.73	14.29	13.39	37.00	39.00	23.25	26.75
Nov	17.53	16.89	19.20	18.56	14.95	13.87	37.00	39.00	23.25	26.75
Dec	17.50	16.84	19.17	18.51	14.80	14.23	37.00	39.50	23.25	26.75
Jan	17.42		19.09		14.62		39.00		26.75	
Feb	17.44		19.11		14.35		39.00		26.75	
Mar	17.13		18.92		14.71		39.00		26.75	
Apr	17.70		19.37		14.71		39.00		26.75	
May	18.21		19.88		15.10		39.00		26.75	
Jun	18.27		19.94		15.40		39.00		26.75	
Jul	17.03		18.70		15.43		39.00		26.75	
Aug	16.64		18.31		13.63		39.00		26.75	
Mkt year 2/	17.55		19.23		14.68		38.33		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: 1/12/2017

Table 7--U.S. feed grain imports by selected sources (1,000 metric tons) 1/, 1/17/2017

Import and country/region		---------- 2014/15 ----------		---------- 2015/16 ----------		2016/17
		Mkt year	Jun-Nov	Mkt year	Jun-Nov	Jun-Nov
Oats	Canada	1,731	847	1,379	738	825
	Sweden	72	0	62	7	
	Finland	62	40	34	18	10
	All other countries	12	5	0	0	0
	Total 2/	1,876	892	1,475	763	836
Malting barley	Canada	334	170	283	115	37
	All other countries	28	0	0	0	17
	Total 2/	362	171	284	115	53
Other barley 3/	Canada	147	80	116	57	35
	All other countries	4	2	4	2	1
	Total 2/	152	82	119	59	36

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: 1/12/2017

Table 8--U.S. feed grain exports by selected destinations (1,000 metric tons) 1/, 1/17/2017

Export and country/region		---------- 2014/15 ---------- Mkt year	Sep-Nov	---------- 2015/16 ---------- Mkt year	Sep-Nov	2016/17 Sep-Nov
Corn	Japan	12,003	2,274	10,392	1,638	2,810
	Mexico	11,333	2,548	13,337	2,780	3,278
	Colombia	4,371	1,148	4,548	952	1,095
	South Korea	3,934	552	2,964	69	1,584
	Peru	2,555	862	2,383	351	704
	China (Taiwan)	1,839	161	2,049	179	657
	Canada	1,490	488	1,006	339	248
	Egypt	1,235	391	852	124	176
	Saudi Arabia	1,185	71	1,389	0.001	405
	Guatemala	852	209	883	202	231
	Costa Rica	774	213	552	98	188
	China (Mainland)	747	108	321	67	10
	Venezuela	710	338	1,155	196	100
	Dominican Republic	607	78	253	0.020	203
	El Salvador	538	156	654	129	178
	Panama	450	141	392	52	133
	Honduras	428	90	550	122	141
	European Union-27	361	76	417	2	163
	Morocco	298	30	450	0.628	288
	Jamaica	282	64	283	52	56
	Algeria	239		663		16
	Nicaragua	191	51	258	36	89
	Iran	138		0.095		
	New Zealand, No Islands	106	25	55	28	12
	Trinidad And Tobago	89	17	92	20	19
	All other countries	666	102	2,305	214	1,219
	Total 2/	47,421	10,192	48,202	7,651	14,002
Sorghum	China (Mainland)	8,328	1,860	7,008	2,719	874
	Sub-Saharan Africa	486	224	593	85	111
	Japan	83	31	79	16	24
	Mexico	21	6	625	49	152
	All other countries	17	4	296	38	4
	Total 2/	8,935	2,125	8,600	2,907	1,165
		---------- 2014/15 ---------- Mkt year	Jun-Nov	---------- 2015/16 ---------- Mkt year	Jun-Nov	2016/17 Jun-Nov
Barley	Mexico	99	42	142	85	1
	Japan	90	55	5	2	9
	Canada	52	14	52	39	17
	China (Taiwan)	32	13	7	4	2
	All other countries	38	36	30	24	2
	Total 2/	311	161	235	155	31

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: 1/12/2017