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Feed Outlook

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Corn Crop Grows on Yield Increase

The 2019/20 U.S. corn crop projection is raised 26 million bushels this month as a 3.5-bushel-per-acre increase in yield to 169.5 bushels virtually offsets a 1.6-million-acre decline in harvested area to 82.0 million. If realized, this would produce a crop of 13,901 million bushels. Use is projected lower on a 25-million-bushel decline in corn for ethanol and a 100-million-bushel decline in exports. Resulting ending stocks are raised, resulting in a price forecast \$0.10 per bushel lower at \$3.60.

Foreign coarse grain supplies for 2019/20 are projected higher, driven mainly by the record-large Ukrainian corn crop, with a marginal decline in use. Projections for U.S. corn exports in the 2019/20 October-September international trade year are unchanged, although exports are reduced for 2018/19, reflecting an intense slowdown in sales and escalation of exports from South America.

Domestic Outlook

U.S. Feed Grain Use Down

U.S. feed grain supplies are projected up 2.3 million metric tons to 434.0 million on greater production and beginning stocks. The current level is 1 percent below that of 2018/19.

U.S. feed grain disappearance for 2019/20 is projected at 374.7 million metric tons, 2.3 million below last month's projection and slightly below the 2018/19 revised estimate of 376.1 million. Feed and residual use, projected at 137.6 million metric tons, is 0.9 million above last month's projection but 1.8 million below the 2018/19 estimate of 139.3 million. Food, seed, and industrial (FSI) use is lowered 0.6 million tons for both 2018/19 and 2019/20 on lower corn used for ethanol. Exports are lowered 2.5 million tons for 2019/20. Total use is lowered 2.3 million tons for 2019/20 to 374.7 million, and ending stocks are projected 4.6 million higher at 59.3 million.

Figure 1
Corn supply and use: percent change from last month's forecast (2019/20)

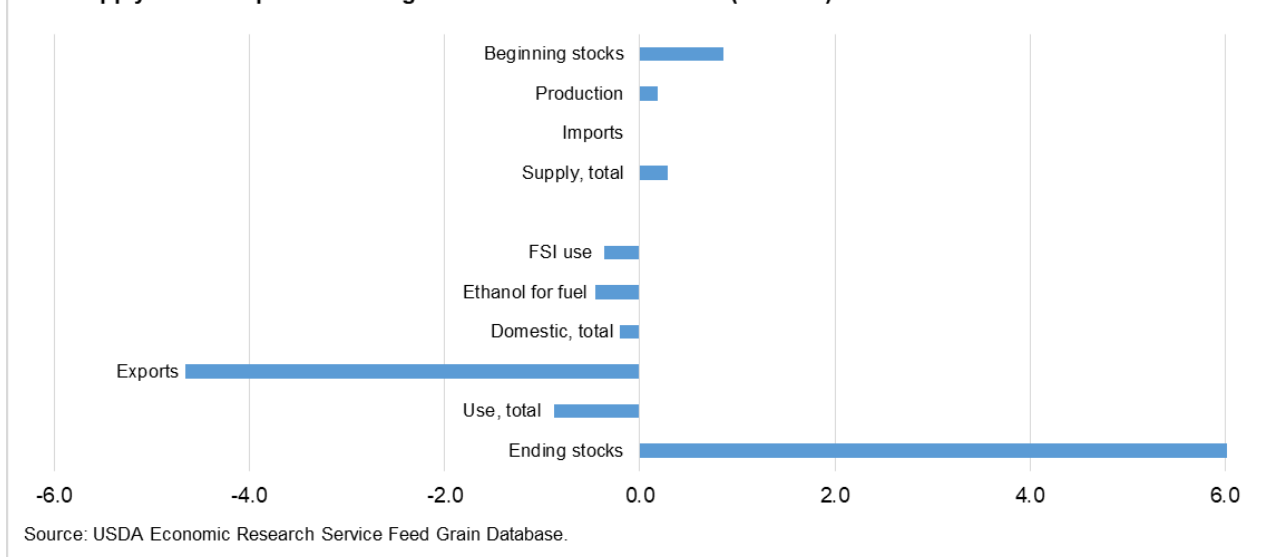
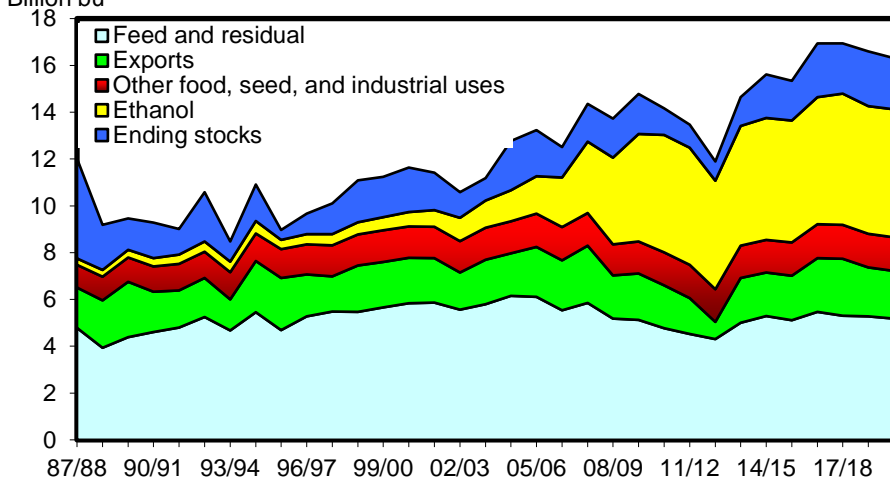
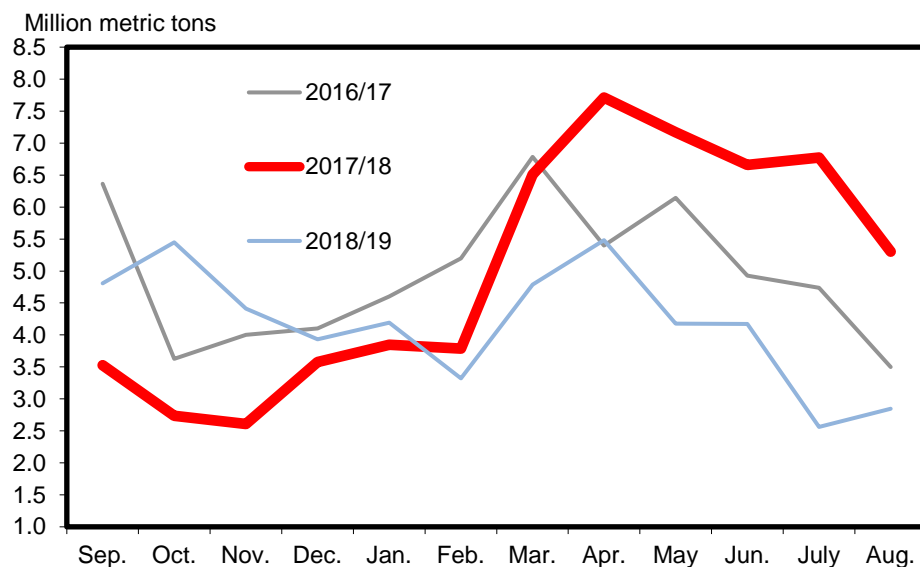


Figure 2
U.S. corn utilization
 Billion bu



Note: Marketing year 2018/19 is projected.
 Source: USDA, World Agricultural Outlook Board, WASDE.

Figure 3
Monthly U.S. corn exports
 Million metric tons



Source: USDA, Economic Research Service with data from USDC, U.S. Census Bureau, June 2019 *Grain Inspections*.

Grain Consuming Animal Units Raised

Grain consuming animal units (GCAU) for 2019/20 are set at 102.3 million units, up from last month's projection of 102.1 million, reflecting larger poultry production. For 2018/19, GCAUs are unchanged at 100.7 million units.

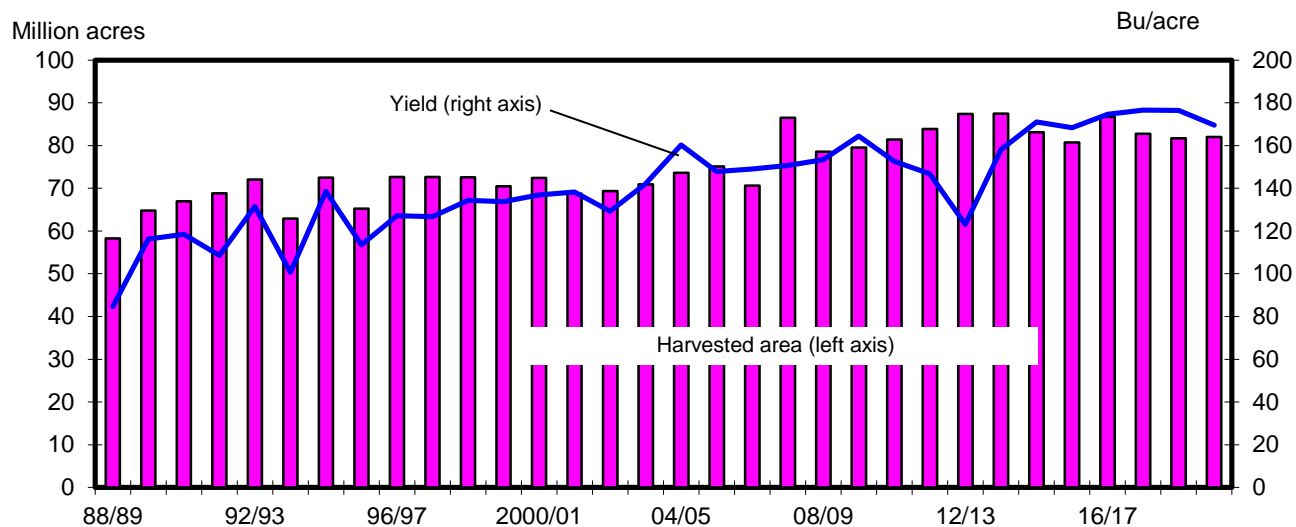
Feed and Residual Use: Four Feed Grains and Wheat

Feed and residual use for the four feed grains (corn, sorghum, barley, and oats) and wheat on a September-August marketing year basis for 2019/20 is projected at 140.4 million tons, 0.5 million higher than last month's forecast mostly due to increases in wheat and sorghum feed and residual. For 2018/19, feed and residual is raised slightly to a projection of 143.5 million tons.

Higher Yield Virtually Offset by Lower Area

Based on the first survey-based forecast for the 2019/20 corn crop, production is raised 26 million bushels this month as a 3.5-bushel-per-acre increase in yield to 169.5 bushels essentially offsets a decline in harvested acres. Harvested acreage is lowered 1.6 million acres to 82.0 million, and planted acreage is lowered 1.7 million acres to 90.0 million. If realized, this would give a crop of 13,901 million bushels, 519 million below 2018/19. Resulting supply is 16,311 million bushels. Carry-in is projected up 20 million bushels to 2,360 million, and imports are unchanged at 50 million bushels.

Figure 4
U.S. corn harvested area and yield



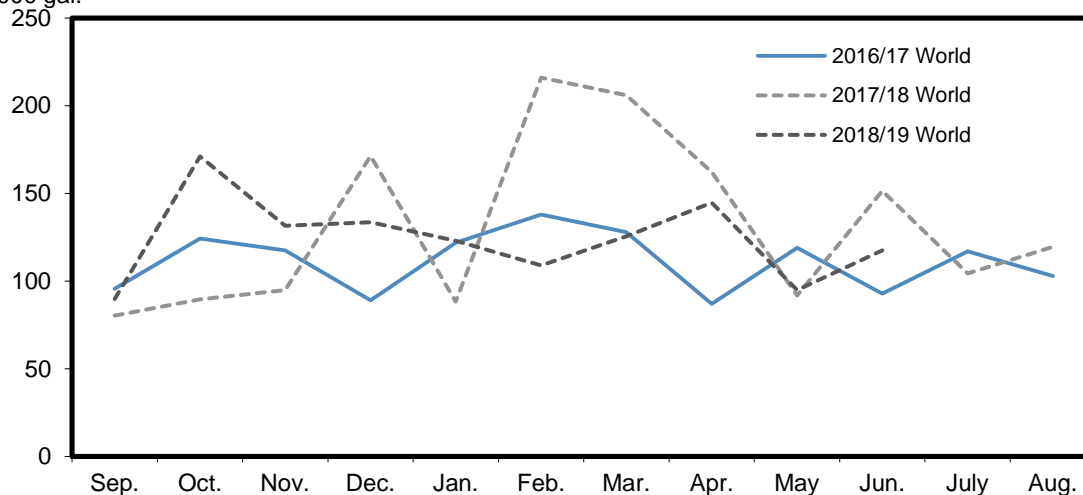
Sources: USDA, Economic Research Service with data from USDA, National Agricultural Statistics Service, *Quick Stats* and USDA, World Agricultural Outlook Board, *Crop Projections*, 2019.

Less Corn for Fuel Lowers Food, Seed, and Industrial Use

Projected corn use for fuel ethanol is lowered 25 million bushels this month to 5,475 million bushels. The USDA, National Agricultural Statistics Service (NASS) *Grain Crushings and Co-Products Production* report indicates a small decline in corn used for fuel ethanol for June and a 4-percent (or 169-million-bushel) decline in year-to-date pace (September-June), while U.S. Energy Information Administration weekly data during July imply production during the month declined nearly 2 percent relative to that of a year ago. Ethanol producer margins have been unfavorable for a number of months, and relatively high corn prices during June and July have likely only added to margin pressure. And, ethanol stocks as of early August were more than 10 percent above this time a year ago, while motor gasoline demand continues to be lackluster. Diminished hopes for exports to China have added to the flat domestic consumption, resulting in a pessimistic outlook. There were no changes in other FSI categories this month.

Figure 5
U.S. fuel ethanol exports

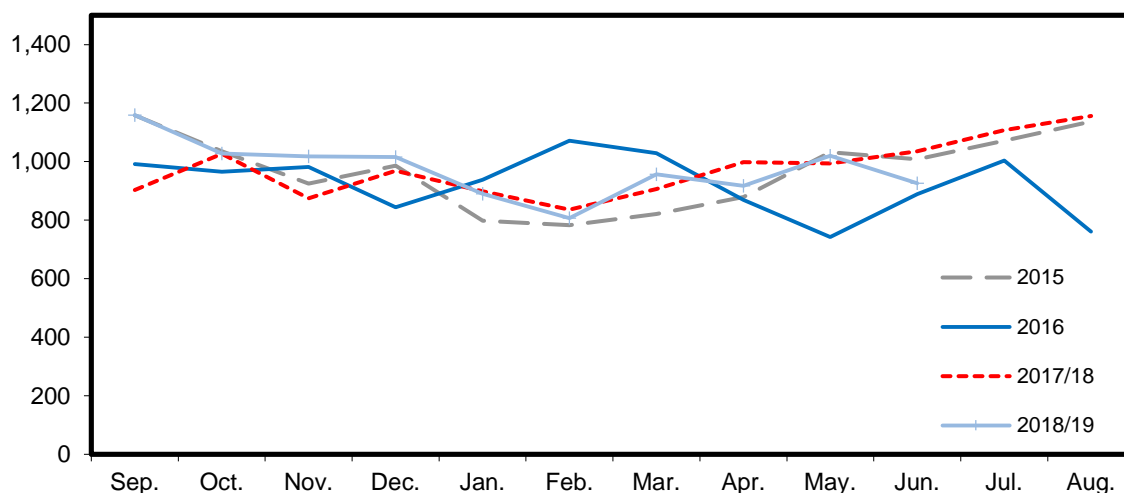
1,000 gal.



Source: USDA, Economic Research Service with data from USDC, U.S. Census Bureau.

Figure 6
U.S. distillers dried grains with solubles exports

Thousand metric tons



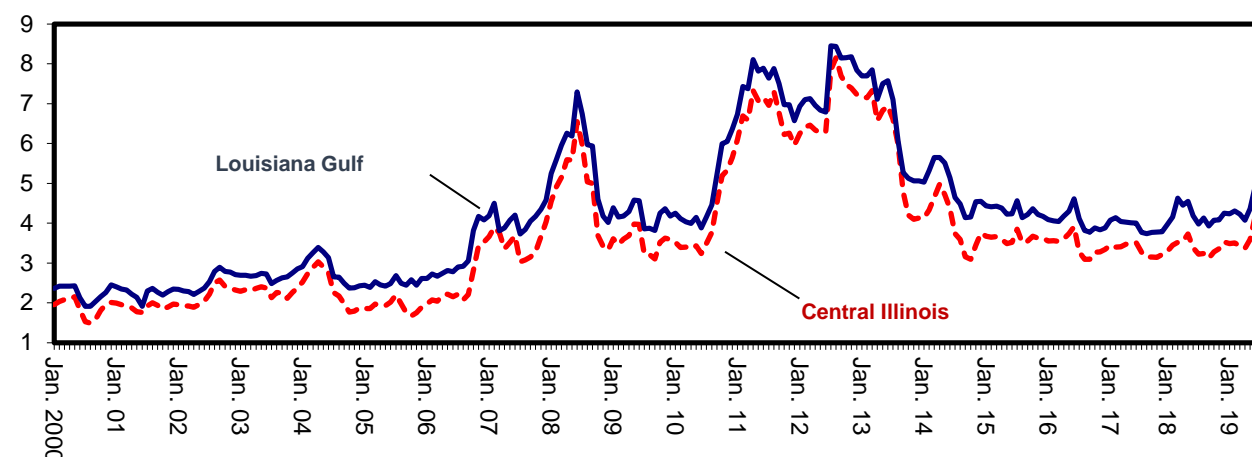
Source: USDA, Economic Research Service with data from U.S. Census Bureau.

Corn Price for 2019/20 Lowered on Increased Supplies

The projected average corn price received by farmers for 2019/20 is lowered \$0.10 for the second consecutive month to \$3.60 per bushel based on the increase in ending stocks. The stocks-to-use ratio for 2019/20 is projected at 15.4, an increase of 1.3 over last month's ratio of 14.1.

Figure 7
Monthly corn (yellow #2) prices for Central Illinois and Louisiana Gulf

Dol./bu



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

Figure 7
Monthly yellow #2 grain sorghum and corn prices for Kansas City

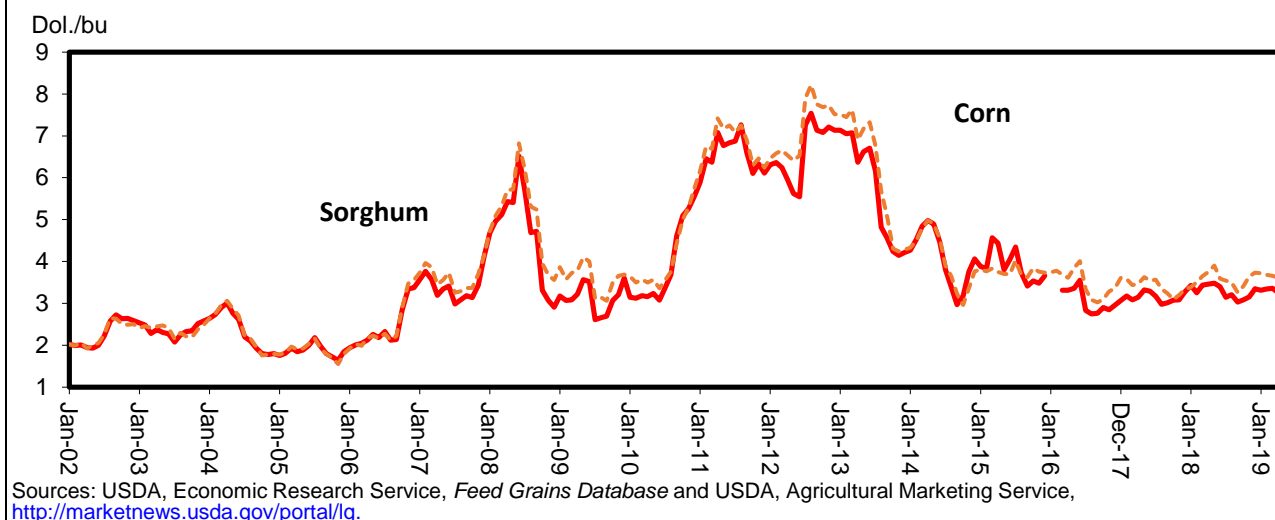
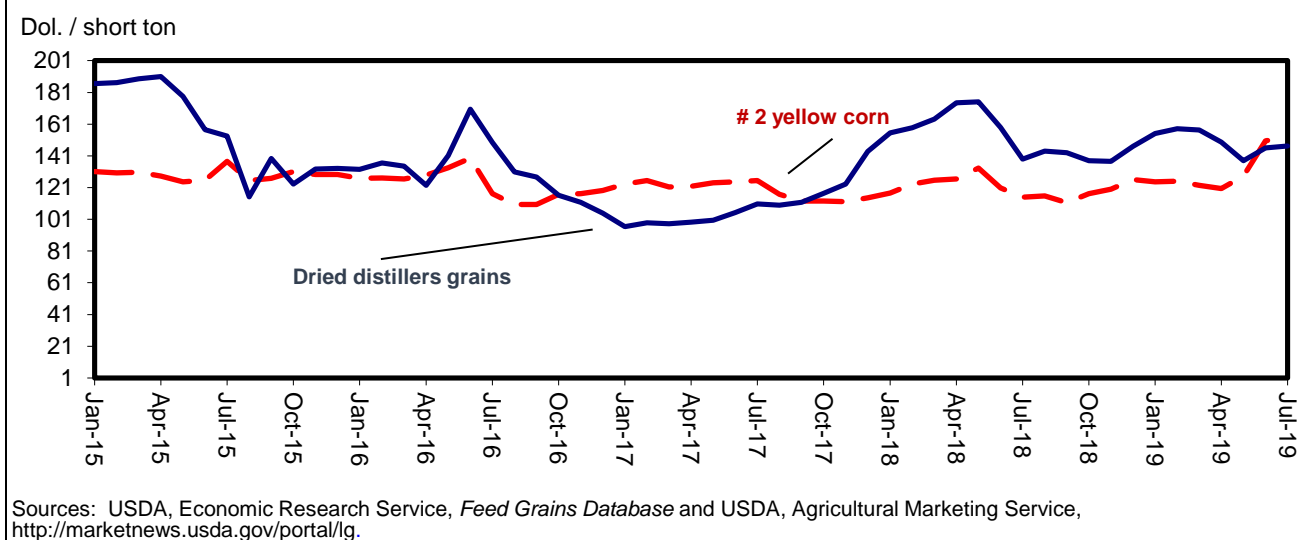


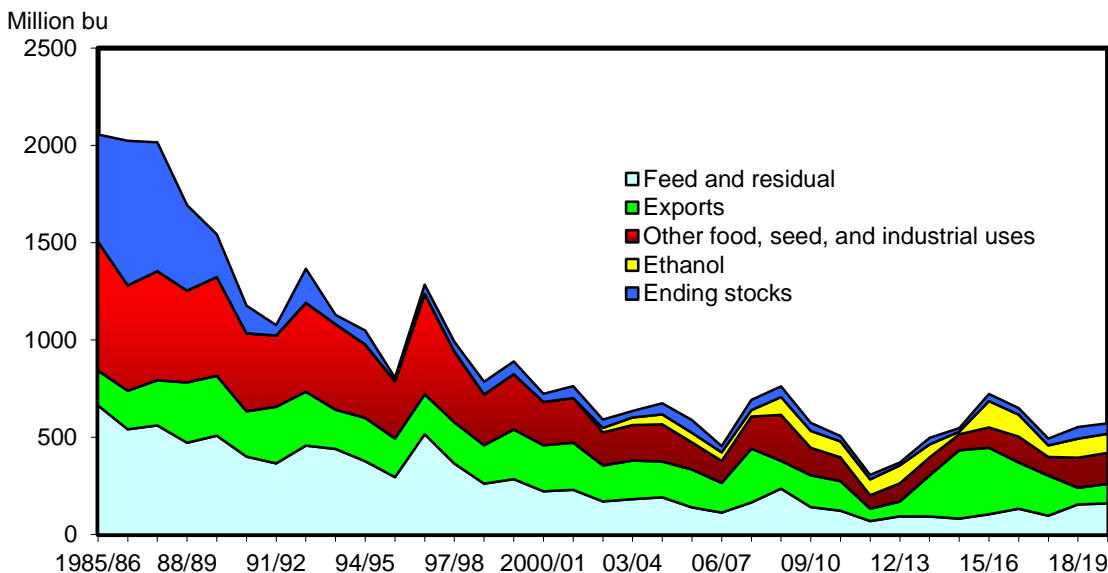
Figure 8
Monthly prices for Central Illinois # 2 yellow corn and corn distillers dried grain



Sorghum Production Raised on Yield Increase

The 2019/20 sorghum crop is projected up 44.8 million bushels. This comes from an upward revision in the area harvested and yield increases. Area harvested is now projected at 4.8 million acres, up 0.2 million acres from last month. Likewise, yield is projected at 73.9 bushels per acre, up 6.5 bushels per acre from last month's projection.

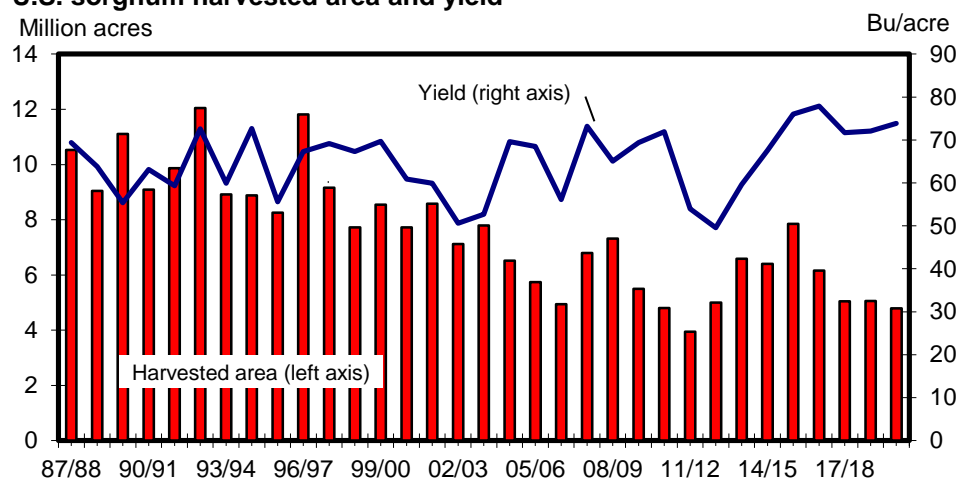
Figure 9
U.S. sorghum utilization



Note: Marketing year 2019/20 is projected.
 Source: USDA, World Agricultural Outlook Board, WASDE.

Feed and residual is increased by 35.0 million bushels, given the increase in production and the expected lack of export market demand. Feed and residual are now projected at 160.0 million bushels. This same 35.0-million-bushel change in feed and residual flows through the balance sheet to add 35.0 million bushels to the domestic total use, now projected at 260.0 million. The remainder of the increase in production is added to ending stocks, which are projected up 9.8 million bushels to 53.6 million. These changes, as well as lower projected corn prices, result in a revised season-average price projection of \$3.30 per bushel, down \$0.10 per bushel from last month.

Figure 10

U.S. sorghum harvested area and yield

USDA, Economic Research Service with data from USDA, National Agricultural Statistics Service, *Quick Stats* and USDA, World Agricultural Outlook Board, *WASDE*.

Minor Revisions to Yield in 2019/20 Influence Barley Balance Sheet

No changes to barley area, with a 0.6-bushel-per-acre increase in yield to 73.9 bushels per acre resulting in 1.3 million bushels added to supply in 2019/20, mostly due to favorable conditions on average throughout the growing region. All of the projected increase due to the yield change is anticipated to be stocked for next year, resulting in a 1.3-million-bushel increase in stocks over last month's forecast, with ending stocks now projected at 92.7 million bushels. The projected season-average price is revised up - \$0.05 per bushel to \$4.60 per bushel in 2019/20.

Oats Production in 2019/20 Marginally Reduced due to Lower Yield Projections

Oats production in 2019/20 is projected down 1.2 million bushels to 60.4 million bushels. This change is driven by a 1.4-bushel-per-acre reduction in projected yield, now forecast at 66.4 bushels per acre. No changes are anticipated for use, however, due to the healthy stocks and market for both oats and its potential substitutes. This results in a 1.2-million-bushel reduction in carryout, with ending stocks expected to be 38.6 million bushels. Season-average price projection remains unchanged month over month at \$2.90 per bushel.

International Outlook

Ukraine Drives Coarse Grain Production Higher

Foreign coarse grain (world minus U.S.) output is increased this month owing mainly to record production in **Ukraine**, where higher reported corn planted area and favorably cool weather boost projected output for a second month in a row. For more information and a display of this month's output changes, see table A1 (for global, foreign, and U.S. changes) and table A2 (for the countries' changes).

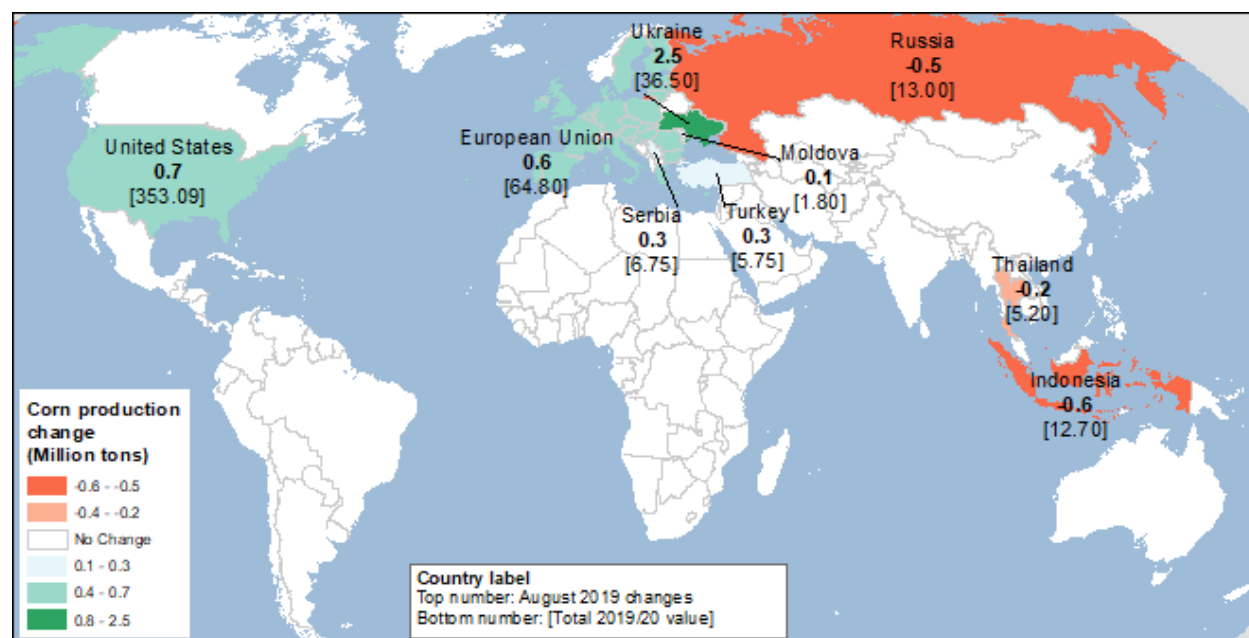
Table A1 - World and U.S. coarse grain production at a glance (2019/20), August 2019					
	Region or country	Production	Change from previous month ¹	YoY ² change	Comments
		Million tons			
Coarse grain production (total)					
↑	World	1,398.9	+3.3	+2.6	
↑	Foreign	1,031.9	+1.6	+15.6	Partly offsetting changes are made for a number of countries and commodities. See table A2.
↑	United States	366.9	+1.8	-13.0	See section on U.S. domestic output.
World production of coarse grains by type of grain					
CORN					
↑	World	1,108.2	+3.1	-14.8	
↑	Foreign	755.2	+2.5	-1.6	Record-high Ukrainian corn output, other changes are offsetting.
↑	United States	353.1	+0.7	-13.2	See section on U.S. domestic output.
BARLEY					
↑	World	152.3	+0.4	+12.8	
↑	Foreign	148.5	+0.4	+12.3	Changes are made for a number of countries. See table A2.
	United States	3.7	Small change	+0.4	See section on U.S. domestic output.
SORGHUM					
↑	World	59.5	+1.1	+0.1	
	Foreign	50.5	No change	+0.4	Foreign production is virtually unchanged.
↑	United States	9.0	+1.1	-0.3	See section on U.S. domestic output.
OATS					
↓	World	23.9	-0.9	+1.9	
↓	Foreign	23.0	-0.8	+1.9	Lower oats output projected for Russia and the EU. ³ See table A2.
	United States	0.9	Small change	No change	See section on U.S. domestic output.
RYE					
↓	World	11.3	-0.5	+1.3	
↓	Foreign	11.0	-0.5	+1.3	Lower rye output projected for Russia and the EU. ³ See table A2.
	United States	0.2	No change	No change	See section on U.S. domestic output.
MILLET					
↓	World/Foreign	27.9	-0.4	-0.9	A reduction in India and a slight increase in Russia.
MIXED GRAIN					
↑	World/Foreign	15.7	+0.4	+2.2	An increase in the EU. ³
¹ Change from previous month. ² YoY: year over year changes. ³ EU: European Union. For changes and notes by country, see table A2. Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution online database.					

Table A2 - Coarse grain foreign production by country (2019/20) at a glance, August 2019

	Type of crop	Crop year	Production	Change in forecast ¹	YoY ² change	Comments
			Million tons			
Coarse grain production by country and by type of grain (2017/18)						
UKRAINE						
↑	Corn	Oct-Sep	36.5	+2.5	+0.7	Higher officially reported planted corn area and favorably cool weather drive projected corn output higher. Final planted area was also reported for all crops, and outputs were adjusted accordingly.
EUROPEAN UNION (EU) ³						
↑	Corn	Oct-Sep	64.8	+0.6	+0.6	Good rainfall and favorable growing conditions in the south and east of the region boost corn yields in Romania, Hungary, Bulgaria, Spain , and several other countries. At the same time, in the north and center of the EU, corn is struggling with dryness, limiting yield potential in France, Germany , and Poland , among several other countries.
↓	Barley	Jul-Jun	60.3	-0.4	+4.5	Harvest reports indicate lower-than-projected yields for Spain, Poland, Czech , and Ireland and higher yields for France and Germany . Smaller changes made for a number of EU countries.
↑	Mixed grain	Jul-Jun	15.4	+0.4	+2.2	Harvest reports indicate higher-than-projected yields mainly in Poland and France , while fractional changes are made for a number of countries in the EU.
SERBIA						
↑	Corn	Oct-Sep	6.8	+0.3	-0.2	Corn yields benefited from cool temperatures and favorable rains the same way as for Serbia's EU neighbors—Romania, Bulgaria, and Hungary.
RUSSIA ⁴						
↓	Corn	Oct-Sep	13.0	-0.5	+1.6	Planted corn area is reduced. With cool rainy weather, yield is boosted, partly offsetting reduction in area. Vegetation Health Index (VHI) suggests good to excellent conditions for corn in producing areas of the South, North Caucasus, and Central districts.
↑	Barley	Jul-Jun	18.5	+0.6	+1.8	Barley output is projected higher because of higher area reported by the Russian state statistical agency, while below average weather conditions persist in the Volga and Ural areas, limiting yields.
↓	Oats	Jul-Jun	4.3	-0.7	-0.4	Reduced oats area more than offsets higher projected yields.
INDONESIA						
↓	Corn	Oct-Sep	12.7	-0.6	+0.7	Unfavorable dryness in some major producing areas (west and center of Java) and reported presence of armyworm reduce yields.
ARGENTINA						
↑	Barley	Dec-Nov	4.8	+0.8	-0.3	Barley area is adjusted up 0.2 million hectares, based on data from the Argentine Ministry of Agriculture. Planting was completed by the end of July.
TURKEY						
↓	Barley	Jul-Jun	8.0	-0.5	+1.0	Barley yields are expected to be slightly lower than anticipated, with a downward revision of yields for the last 2 years.
INDIA						
↓	Millet	Jul-Jun	10.7	-0.5	+0.6	Projected area is reduced, as planting progress is substantially behind that of the last year.
¹ Change from previous month. Smaller changes for coarse grain output are made for several countries, see map A for changes in corn .						
² YoY: year over year changes. ³ Small reductions are also made for rye and oats production. EU production of corn, barley, oats, and						
rye is also revised for 2018/19. ⁴ Area changes are made for every grain crop in Russia based on newly reported official area.						
Source: USDA, Foreign Agricultural Service, Production, Supply, and Distribution online database.						

For a visual display of production changes in corn, see map A below.

Map A – Corn production changes for 2019/20, August 2019



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

Projected World Coarse Grain Use Reduced, Boosting Stocks

Global coarse grain use in 2019/20 is projected down 4.8 million tons this month to 1,417.5 million. Half of the reduction is in **Chinese** corn use. Feed and residual use for **China** is reduced by 2.0 million tons (or 1 percent) for 2 consecutive years—2018/19 and 2019/20. The reductions are due in part to a decline in the livestock (pigs) herd, as African swine fever (ASF) interferes with the country's pig industry operations. In addition, forecast protein meal consumption is reduced for 2018/19, with no growth expected in 2019/20. As a result, corn (and coarse grain) stocks for China are projected 4.0 million tons higher than a month ago but 16.0 million lower than last year, as corn use continues to outpace supplies for the third year in a row. The sales of China's aging corn stocks are moving forward, reducing the stocks' (still enormous) size at a projected 195.8 million tons, still almost 64 percent of the global corn stocks total.

Projected corn feed and residual use is reduced for **Brazil**, down 1.0 million tons due to an upward revision of corn exports in the marketing year 2018/19, leaving ending corn stocks unchanged.

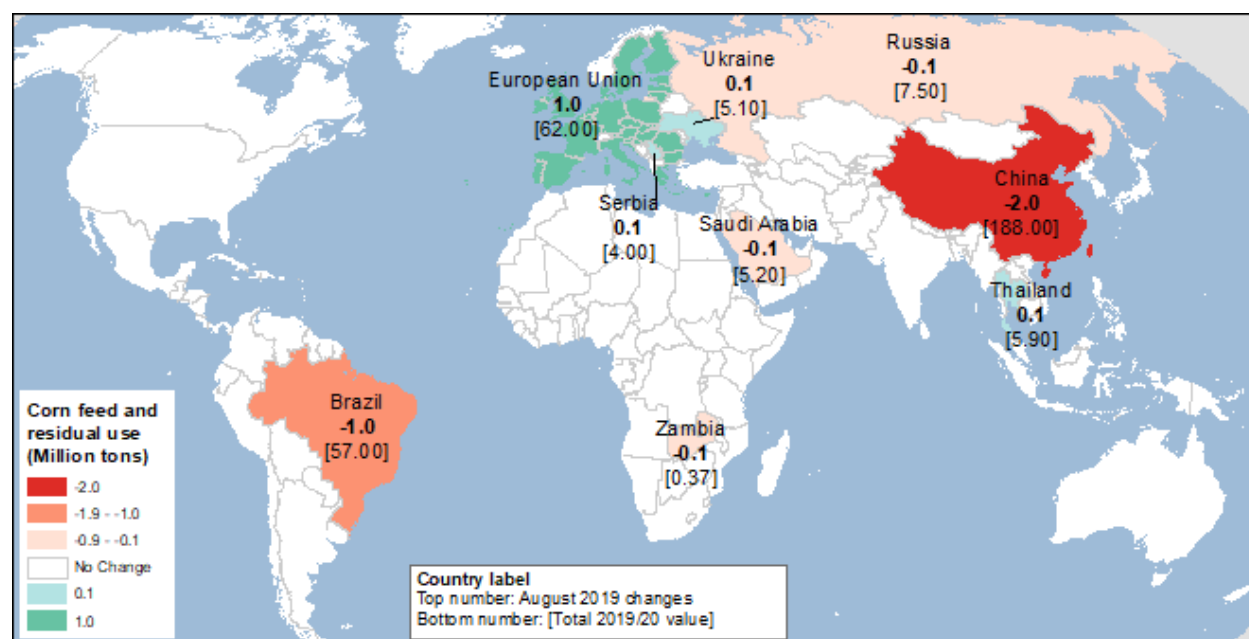
Partly offsetting those reductions, corn feeding in the **European Union (EU)** is projected 1.0 million tons higher this month, thanks to enhanced opportunities to import additional low-priced

corn from a record-high Ukrainian crop. The EU is also expected to use more barley while exporting less to Saudi Arabia. Coarse grain stocks in the EU are projected slightly higher this month.

Owing to smaller corn and barley imports in **Saudi Arabia**, the country's grain feeding is projected lower. Smaller coarse grain imports can be at least partly attributed to better pastures as the country enjoyed unusual precipitation.

For additional information on this month's changes in corn feed consumption, see map B.

Map B – Corn feed and residual use changes for 2019/20, August 2019



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

Increased 2019/20 coarse grain supplies combined with lower use to boost projected world ending stocks 8.3 million tons to 336.3 million, still the lowest in 5 years. Corn stocks are up 8.8 million tons to 307.7 million, with much smaller changes in other coarse grains. In addition to the above-mentioned countries, corn stocks are projected higher for **Ukraine** (up 0.4 million tons) but lower for **Indonesia** (down 0.3 million tons), reflecting production changes. Higher 2018/19 corn exports limit **Argentina** corn stocks (down 0.5 million tons), while at the same time, barley stocks are projected higher (up 0.5 million tons), boosted by increased output. Other smaller changes are made for a number of countries.

World Corn Trade for 2019/20 and 2018/19 Is Up...

Global corn trade for the October-September international trade year **2019/20** is up 1.6 million tons to 172.8 million, with the major change coming from **Ukraine**. The country's exports are projected 2.0 million tons higher, reaching a record of 30.0 million, as Ukraine expands its share in meeting growing corn demand and displacing other major exporters as a supplier in the world corn market. A small reduction in **Russian** corn exports (down 0.3 million tons) is partly offsetting.

For the **2018/19** October-September trade year, corn exports are forecast 2.2 million tons higher to reach 170.4 million tons, as attractive prices encourage imports. Brazil's **2018/19** exports are boosted by 3.5 million tons this month to a new record of 37.5 million. Brazilian exports in July were by far higher than the previous record for this month, as the sale of the early harvested 2018/19 season record-high Brazilian corn crop commenced.

Argentina exports for **2018/19** are raised 1.0 million tons to 32.0 million. The pace of corn exports out of Argentina (especially to Algeria) has been brisk in the last 2 months, enhancing competition in the global corn market.

Corn exports in **2018/19** out of the **EU** are expected to grow by 0.8 million tons to 2.0 million, as the region's pace of sales to the Middle East, North Africa, and Korea is faster than expected.

Other changes for 2018/19 are smaller and based on pace of sales and shipments to date.

...While U.S. Exports Are Reduced Further

Although **U.S.** corn exports for the October-September international trade year **2019/20** are unchanged from last month at 55.0 million tons, corn exports for the local September-August marketing year are projected 2.5 million tons lower (down 100 million bushels to 2,050 million), given the prospects of exceedingly low shipments in the first month of the local year—September 2019. The **2018/19** corn harvests and exports from the Southern Hemisphere (Argentina and Brazil), coupled with the record Ukrainian harvest, are producing strong competition for U.S. corn exports in late 2018/19 and into the 2019/20 September-August trade year. U.S. supplies are basically unchanged month-to-month but down year-to-year and the lowest since 2015/16. In addition, 2018/19 corn production in Argentina and Brazil is up nearly 40 million tons from a year ago, while Ukraine is expected to harvest a record crop. These factors, combined with a relatively strong U.S. dollar, are expected to pose significant headwinds for U.S. corn exports.

Consequently, U.S. corn exports for the **2018/19** October-September international trade year are also reduced this month by 2.5 million tons to 51.0 million tons. A projection for the

September-August 2018/19 local marketing year is reduced by 100 million bushels to 2,100 million.

U.S. corn exports started to slow down abruptly in June. Census corn exports for this month are the lowest since 2012 at 3.1 million tons. The decline continued in July, as inspections came out at a mere 2.8 million tons. This suggests lower-than-expected exports in the last quarter of the local marketing year, just as competitors—corn producers in the Southern Hemisphere, and soon Ukraine—enter the market with escalating exports.

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Table 1--Feed grains: U.S. quarterly supply and disappearance (million bushels), 8/14/2019

Table 1. Feed grains: U.S. quantity supply and disappearance (million bushels), Q 1/4/2015												Farm price 2/ (dollars per bushel)	
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		
Corn	2016/17	Sep-Nov	1,737	15,148	14	16,899	1,689	2,279	548	4,516	12,383	3.26	
		Dec-Feb	12,383		12	12,395	1,711	1,523	539	3,773	8,622	3.39	
		Mar-May	8,622		17	8,639	1,741	982	687	3,410	5,229	3.46	
		Jun-Aug	5,229		14	5,243	1,743	686	520	2,949	2,293	3.40	
		Mkt yr	1,737	15,148	57	16,942	6,885	5,470	2,294	14,649	2,293	3.36	
	2017/18	Sep-Nov	2,293	14,609	11	16,914	1,743	2,256	349	4,347	12,567	3.21	
		Dec-Feb	12,567		8	12,575	1,739	1,497	447	3,683	8,892	3.30	
		Mar-May	8,892		8	8,900	1,782	951	862	3,595	5,305	3.58	
		Jun-Aug	5,305		9	5,314	1,794	600	780	3,174	2,140	3.46	
		Mkt yr	2,293	14,609	36	16,939	7,057	5,304	2,438	14,798	2,140	3.36	
	2018/19	Sep-Nov	2,140	14,420	6	16,567	1,712	2,286	632	4,630	11,937	3.41	
		Dec-Feb	11,937		9	11,945	1,640	1,195	498	3,333	8,613	3.56	
		Mar-May	8,613		6	8,619	1,714	1,114	589	3,417	5,202		
		Mkt yr	2,140	14,420	30	16,590	6,855	5,275	2,100	14,230	2,360	3.60	
	2019/20	Mkt yr	2,360	13,901	50	16,311	6,905	5,175	2,050	14,130	2,181	3.60	
	Sorghum	2016/17	Sep-Nov	36.63	480.26	0.00	516.90	21.65	144.36	41.81	207.82	309.08	2.62
			Dec-Feb	309.08		0.00	309.08	33.06	5.97	89.32	128.34	180.75	2.69
			Mar-May	180.75		0.00	180.75	34.62	2.41	59.02	96.04	84.71	2.79
			Jun-Aug	84.71		1.73	86.44	25.30	-19.97	47.65	52.98	33.46	3.53
			Mkt yr	36.63	480.26	1.74	518.63	114.61	132.76	237.80	485.18	33.46	2.79
2017/18		Sep-Nov	33.46	361.87	1.91	397.24	13.92	110.30	45.54	169.75	227.49	3.05	
		Dec-Feb	227.49		0.05	227.55	10.24	3.38	73.67	87.29	140.26	3.18	
		Mar-May	140.26		0.01	140.27	15.81	-7.18	66.30	74.93	65.33	3.40	
		Jun-Aug	65.33		0.04	65.38	20.44	-4.76	14.84	30.52	34.85	3.78	
		Mkt yr	33.46	361.87	2.02	397.35	60.40	101.74	200.35	362.49	34.85	3.22	
2018/19		Sep-Nov	34.85	364.99	0.00	399.84	25.56	99.13	16.37	141.06	258.78	3.18	
		Dec-Feb	258.78		0.00	258.78	23.36	19.94	22.76	66.06	192.73	3.20	
		Mar-May	192.73		0.01	192.73	26.86	29.06	22.16	78.09	114.64		
		Mkt yr	34.85	364.99	0.04	399.88	100.00	155.00	85.00	340.00	59.88	3.20	
2019/20		Mkt yr	59.88	353.75		413.63	100.00	160.00	100.00	360.00	53.63	3.30	

Table 1--Feed grains: U.S. quarterly supply and disappearance, cont. (million bushels), 6/13/2019

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	2/ (dollars per bushel)
Barley	2016/17	Jun-Aug	102	200	2	304	41	32	1	74	230	4.99
		Sep-Nov	230		2	232	39	-0	1	40	193	4.78
		Dec-Feb	193		2	195	37	12	1	50	145	5.04
		Mar-May	145		3	148	45	-6	2	41	106	4.96
		Mkt yr	102	200	10	312	162	39	4	205	106	4.96
	2017/18	Jun-Aug	106	143	2	252	41	30	2	72	180	
		Sep-Nov	180		2	182	38	-17	2	23	159	
		Dec-Feb	159		2	161	35	-6	1	31	130	
		Mar-May	130		3	133	43	-5	1	38	94	
		Mkt yr	106	143	9	259	157	2	5	164	94	4.47
	2018/19	Jun-Aug	94	153	1	249	40	33	1	74	175	
		Sep-Nov	175		1	176	38	-16	1	23	153	
		Dec-Feb	153		2	154	36	-5	1	33	121	
		Mar-May	121		2	123	40	-5	1	37	87	
		Mkt yr	94	153	6	253	155	7	5	167	87	4.63
	2019/20	Mkt yr	97	172	10	260	152	20	2	176	92	4.60
Oats	2016/17	Jun-Aug	57	65	21	142	19	44	1	63	79	1.87
		Sep-Nov	79		28	106	18	12	1	31	75	2.03
		Dec-Feb	75		24	100	17	18	1	37	63	2.35
		Mar-May	63		18	81	22	8	1	31	50	2.42
		Mkt yr	57	65	90	212	76	82	3	161	50	2.06
	2017/18	Jun-Aug	50	50	19	119	19	27	1	47	72	2.35
		Sep-Nov	72		30	102	18	17	1	36	66	2.58
		Dec-Feb	66		20	86	18	13	1	31	55	3.03
		Mar-May	55		20	75	22	11	1	34	41	2.94
		Mkt yr	50	50	89	189	77	68	2	148	41	2.59
	2018/19	Jun-Aug	41	56	20	117	19	23	0	42	75	2.55
		Sep-Nov	75		28	103	18	17	0	36	67	2.65
		Dec-Feb	67		18	85	18	17	0	35	50	2.77
		Mar-May	50		21	71	22	12	0	34	37	
		Mkt yr	41	56	87	184	77	68	2	147	37	2.68
	2019/20	Mkt yr	37	60	110	207	78	90	2	170	37	2.90

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: 8/13/2019

Table 2--Feed and residual use of wheat and coarse grains, 8/14/2019

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)	consuming animal units (millions)	per grain consuming animal unit
2017/18	Q1 Sep-Nov	57.3	2.8	-0.4	0.3	60.0	-1.5	58.6		
	Q2 Dec-Feb	38.0	0.1	-0.1	0.2	38.2	-0.5	37.7		
	Q3 Mar-May	24.2	-0.2	-0.1	0.2	24.1	-1.2	22.9		
	Q4 Jun-Aug	15.2	-0.1	0.7	0.4	16.2	5.1	21.4		
	MY Sep-Aug	134.7	2.6	0.1	1.2	138.6	1.9	140.5	99.0	1.4
2018/19	Q1 Sep-Nov	58.1	2.5	-0.4	0.3	60.6	-2.0	58.5		
	Q2 Dec-Feb	30.3	0.5	-0.1	0.3	31.0	-0.8	30.2		
	Q3 Mar-May	28.3	0.7	-0.1	0.2	29.1	0.3	29.5		
	MY Sep-Aug	134.0	3.9	1.2	1.5	140.6	4.0	144.6	100.7	1.4
2019/20	MY Sep-Aug	131.5	4.1	0.1	1.5	137.1	3.9	141.0	102.3	1.4

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, 8/14/2019

Mkt year and month 1/	Corn, No. 2 yellow, Central IL (dollars per bushel)			Corn, No. 2 yellow, Gulf ports, LA (dollars per bushel)			No. 2 yellow, Gulf
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	
Sep	3.09	3.15	3.12	3.78	3.74	3.93	
Oct	3.27	3.15	3.28	3.88	3.77	4.07	
Nov	3.28	3.14	3.36	3.83	3.78	4.09	
Dec	3.34	3.21	3.53	3.88	3.79	4.25	
Jan	3.45	3.29	3.53	4.07	3.96	4.24	
Feb	3.51	3.45	3.50	4.14	4.15	4.31	
Mar	3.40	3.52	3.43	4.04	4.36	4.23	
Apr	3.41	3.54	3.37	3.98	4.46	4.11	
May	3.47	3.73	3.59	4.03	4.55	4.36	
Jun	3.49	3.38	4.21	4.01	4.19	4.96	7.56
Jul	3.51	3.22	4.29	4.00	3.98	4.81	
Aug	3.27	3.24		3.77	4.13		
Mkt year	3.37	3.34		3.95	4.07		7.56
	Barley, No. 2 feed, Minneapolis, MN (dollars per bushel)			No. 3 malting, Minneapo		Oats, No. 2 white heavy, Minneapolis, MN (dollars per bushel)	
	2017/18	2018/19	2019/20	2017/18	2017/18	2018/19	2019/20
Jun	2.05	2.85	3.25	4.70	2.95	2.88	3.15
Jul	2.05	2.85	3.25	4.67	3.17	2.84	3.10
Aug	2.10	2.78		4.70	2.98	2.91	
Sep	2.10	2.60		4.70	2.87	2.91	
Oct	2.10	2.60		4.70	2.97	3.18	
Nov	2.36	2.60			2.94	3.22	
Dec	2.61	2.60		4.85	2.73	3.31	
Jan	2.65	2.60		4.85	2.90	3.28	
Feb	2.81	2.60		4.85	2.96	3.23	
Mar	2.85	2.60		4.50	2.79	3.18	
Apr	2.85	2.97			2.72	3.25	
May	2.85	3.25			2.89	3.25	
Mkt year	2.45	2.74		4.72	2.90	3.12	

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: 8/14/2019

Table 4--Selected feed and feed byproduct prices (dollars per ton), 8/14/2019

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	
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2016/17	2017/18
Oct	323.26	319.24	319.15	241.88	229.00	249.00	77.00	80.70	466.13	469.30
Nov	322.42	313.52	310.62	221.00	228.75	240.00	83.50	93.00	477.50	487.24
Dec	321.03	327.17	311.70	217.50	232.50	243.50	92.83	96.25	501.67	482.88
Jan	332.34	322.60	314.93	223.50	259.00	247.50	97.50	98.80	502.50	477.60
Feb	334.32	362.85	290.12	221.88	303.13	235.00	88.13	106.25	516.50	483.13
Mar	320.34	379.85	306.38	210.63	323.13	226.25	87.13	105.50	505.63	524.75
Apr	305.67	385.85	304.26	195.00	263.13	216.50	75.00		501.13	
May	293.68	393.55	297.52	179.50	262.50	215.00	71.00		485.30	
Jun	258.75	355.71	324.75	179.38	257.50	215.63	68.38		475.75	
Jul	326.04	341.08	310.78	200.84	253.13	218.00	71.35		467.88	
Aug	301.05	332.50		198.50	260.00		73.10		475.50	
Sep	307.70	318.33		213.75	258.75		75.00		469.25	
Mkt yr	312.22	346.02		208.61	260.88		79.99	96.75	487.06	487.48

	Meat and bone meal, Central US			Distillers dried grains, Central Illinois, IL			Wheat middlings, Kansas City, MO		Alfalfa hay, weighted-average farm price 2/		
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2017/18	2018/19
Oct	237.50	228.00	267.50	116.25	117.30	137.50	79.43	70.36	80.00	153.00	178.00
Nov	229.00	219.38	257.50	111.70	123.13	137.50	85.53	86.85	105.00	150.00	175.00
Dec	211.67	221.67	257.50	104.84	143.75	147.00	101.62	107.88	148.00	149.00	180.00
Jan	255.60	220.00	259.50	96.30	155.50	154.80	98.25	123.68	108.10	153.00	181.00
Feb	285.00	225.84	260.00	98.88	158.88	158.13	84.66	114.61	98.88	155.00	180.00
Mar	284.38	275.00	263.33	98.25	164.13	157.38	80.76	99.69	101.50	165.00	184.00
Apr	266.25	316.25		99.25	174.38	149.70	58.03	100.22	76.90	183.00	199.00
May	245.50	293.00	265.00	100.50	174.90	137.90	48.41	98.90	66.63	189.00	204.00
Jun	248.13	288.75		105.25	158.50	145.75	60.39	89.50	69.00	181.00	193.00
Jul	276.25	283.75		110.63	139.30	147.20	67.10	64.50	72.90	179.00	
Aug	318.50	265.63		110.00	144.00		63.15	83.50		177.00	
Sep	301.88	266.25		111.63	142.50		67.48	84.00		180.00	
Mkt yr	263.31	258.63		105.29	149.69		74.57	93.64		154.00	181.00

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), 8/14/2019

Mkt year and qtr 1/		High-fructose corn syrup (HFCS)	Glucose and dextrose	Starch	Alcohol for beverages and fuel	Alcohol for manufacturing	Cereals and other products	Seed	Total food, seed, and industrial use
2017/18	Q1 Sep-Nov	111.69	93.51	59.42	1,391.29	36.46	50.38	0.00	1,742.74
	Q2 Dec-Feb	105.44	87.92	56.87	1,397.46	38.23	52.82	0.00	1,738.73
	Q3 Mar-May	117.94	94.43	58.58	1,388.64	38.50	55.27	28.15	1,781.51
	Q4 Jun-Aug	124.19	95.49	60.89	1,427.43	35.83	48.23	1.48	1,793.55
	MY Sep-Aug	459.25	371.35	235.80	5,604.83	149.00	206.70	29.64	7,056.56
2018/19	Q1 Sep-Nov	108.19	89.41	59.40	1,365.70	37.00	52.00	0.00	1,711.70
	Q2 Dec-Feb	100.08	85.61	55.75	1,308.55	38.00	52.00	0.00	1,640.00
	Q3 Mar-May	114.79	88.86	57.67	1,340.02	40.00	53.00	19.70	1,714.04
	MY Sep-Aug	445.00	360.00	235.00	5,425.00	150.00	209.20	30.80	6,855.00
2019/20	MY Sep-Aug	440.00	360.00	235.00	5,475.00	151.00	214.00	30.00	6,905.00

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

Source: Calculated by USDA, Economic Research Service.

Data thru 8/14/2019

Table 6--Wholesale corn milling product and byproduct prices, 8/14/2019

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)		fructose corn syrup (42%), Midwest
	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18
Sep	16.01	14.97	17.68	16.64	14.41	14.35	39.00	39.25	28.25
Oct	15.94	15.24	17.61	16.91	13.87	13.69	39.00	39.25	28.25
Nov	15.78	15.09	17.45	16.76	13.90	14.14	39.00	39.25	28.25
Dec	15.69	15.17	17.35	16.90	13.75	14.38	39.00	39.25	28.25
Jan	15.75	15.14	17.42	16.81	13.81	14.59	39.25	40.00	28.25
Feb	16.09	17.49	17.76	16.66	14.08	14.74	39.25	40.00	
Mar	16.13	14.51	17.80	16.18	14.53	14.95	39.25	40.00	
Apr	16.23	14.57	17.90	16.24	14.65	14.80	39.25	40.00	
May	16.41	14.85	18.08	16.52	14.44	14.80	39.25	40.00	
Jun	15.64	16.15	17.31	17.82	14.77	15.34	39.25	40.00	
Jul	15.28	17.78	16.95	17.78	14.20	17.20	39.25	40.00	
Aug	15.35		17.02		13.78		39.25		
Mkt year 2/	15.86		17.53		14.18		39.17		

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: 8/14/2019

Table 7--U.S. feed grain imports by selected sources (1,000 metric tons) 1/, 8/14/2019

Import and country/region		----- 2017/18 -----		----- 2018/19 -----		2019/20
		Mkt year	Jun	Mkt year	Jun	Jun
Oats	Canada	1,480	81	1,448	96	95
	Sweden	41		27		
	Finland	16		18		
	All other countries	0	0	0	0	0
	Total 2/	1,537	81	1,493	96	95
Malting barley	Canada	88	9	67	3	5
	All other countries	1	0	0	0	0
	Total 2/	88	9	67	3	5
Other barley 3/	Canada	110	11	60	7	6
	All other countries	1	0	0	0	0
	Total 2/	111	11	61	7	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: 8/14/2019

Table 8--U.S. feed grain exports by selected destinations (1,000 metric tons) 1/, 8/14/2019

		----- 2016/17 -----		----- 2017/18 -----		2018/19
Export and country/region		Mkt year	Sep-Jun	Mkt year	Sep-Jun	Sep-Jun
Corn	Mexico	13,932	11,373	15,715	12,380	13,487
	Japan	13,559	11,503	13,210	9,930	12,015
	South Korea	5,601	5,332	5,732	4,428	3,677
	Colombia	4,752	4,003	5,085	4,362	4,451
	Peru	2,989	2,472	3,238	2,716	1,987
	China (Taiwan)	2,961	2,734	2,461	1,800	1,935
	Saudi Arabia	2,163	2,092	1,495	1,162	733
	Guatemala	994	804	864	706	1,025
	Morocco	871	871	747	708	164
	European Union-27	843	648	1,904	1,904	34
	Costa Rica	819	665	836	696	696
	Dominican Republic	807	762	631	446	655
	China (Mainland)	807	364	307	305	198
	Canada	704	588	1,663	1,287	2,027
	Sub-Saharan Africa	605	582	137	36	20
	El Salvador	592	490	457	368	600
	Chile	543	543	15	0.595	15
	Honduras	506	397	618	490	467
	Panama	485	404	502	411	393
	Venezuela	419	325	435	405	150
	Indonesia	351	350	147	147	8
	Cuba	337	308	117	117	58
	Nicaragua	329	266	280	228	299
	Malaysia	327	323	68	57	43
	Egypt	323	277	1,335	1,018	531
	All other countries	1,652	1,518	3,920	3,186	1,076
	Total 2/	58,270	49,995	61,916	49,295	46,743
		----- 2017/18 -----		----- 2018/19 -----		2019/20
		Mkt year	Jun	Mkt year	Jun	Jun
Sorghum	China (Mainland)	4,740	3,880	4,151	4,093	395
	Mexico	585	537	93	68	367
	Sub-Saharan Africa	467	390	363	273	254
	Japan	223	223	328	236	238
	All other countries	25	24	155	94	622
	Total 2/	6,040	5,054	5,089	4,764	1,875
Barley	Canada	69	8	46	3	2
	Japan	31	4	45	3	3
	China (Taiwan)	5	0.383	8	0.252	0.385
	South Korea	3	0.223	5	0.679	0.156
	All other countries	3	0.647	3	0.414	0.206
	Total 2/	111	13	107	8	6

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: 8/14/2019

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[Feed Grains Database](#) 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.

Related Websites

- [Mann Library Feed Outlook page](#) [Mann Library WASDE page](#)
- Grain Circular <https://www.fas.usda.gov/commodities/grain-and-feed>
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