



Feed Outlook

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Corn Yield Projected Lower, Crop Now Third Largest

A 2.5-bushel-per-acre reduction in projected yield puts the 2018/19 U.S. corn crop at the third highest on record. At 14,420 million bushels, the crop is bested by both the 2016 and 2017 crops. With a small decline in imports, supplies are forecast at 16,600 million bushels. At 176.4 bushels per acre, this crop's yield is only 0.2 bushels per acre lower than the 2017 record yield. Disappearance is forecast 165 million bushels lower at 14,865 million. Feed and residual use is projected 125 million bushels lower, compared with the December forecast, and food, seed, and industrial use is projected 40 million bushels lower this month. There is no change in projected price this month.

Argentina and Ukraine are expected to have larger exportable supplies. Corn trade is boosted, while the trade in sorghum and oats is reduced. All three major foreign corn exporters—Ukraine and Brazil, and Argentina (for the local 2018/19)—see their corn exports grow. U.S. corn exports are unchanged.

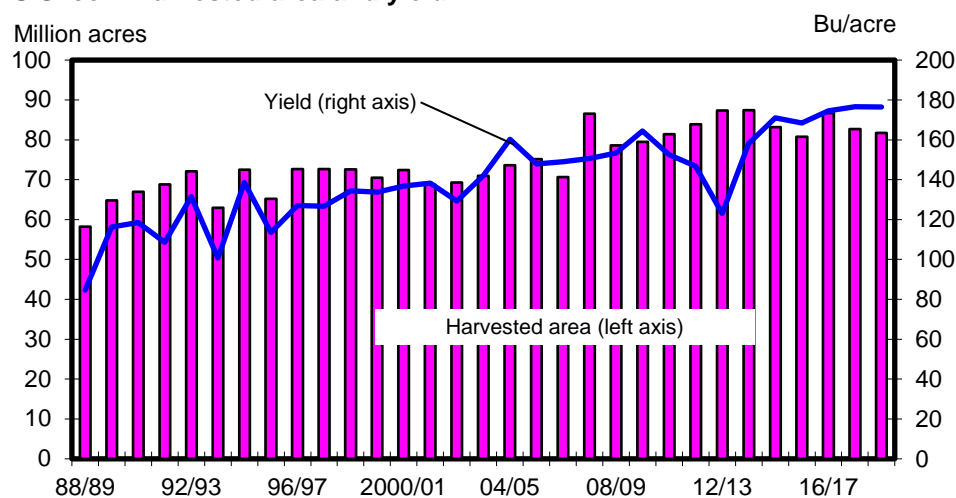
Due to a suspension of funding, the January 2019 *Feed Outlook* was not published.

Domestic Outlook

U.S. Feed Grain Supplies Raised

U.S. feed grain supplies are lowered 5.3 million metric tons this month from the December forecast as lower production for corn was partially offset by larger sorghum production on higher yields. Combined with a small decline in imports, supply is down 5.3 million tons; supply is projected at 440.5 million tons, 8.5 million below 2017/18.

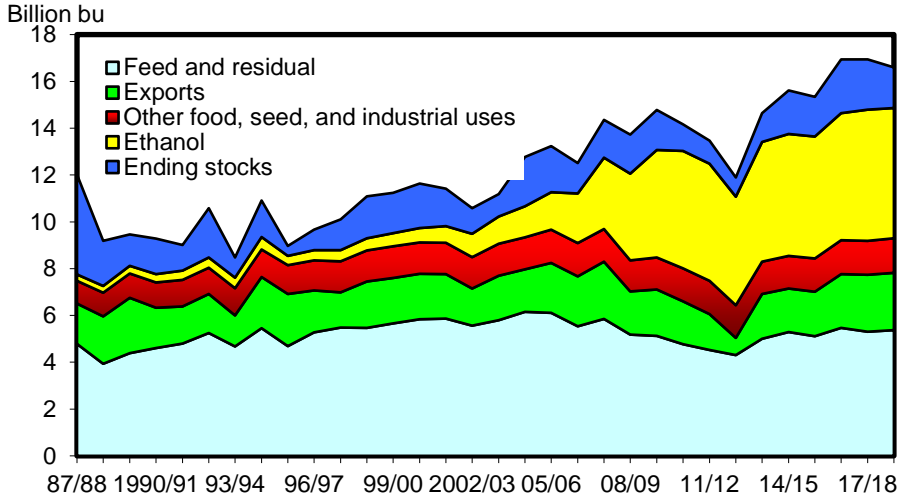
Figure 1
U.S. corn harvested area and yield



Sources: USDA, National Agricultural Statistics Service, *QuickStats* and USDA, World Agricultural Outlook Board, *Crop Projections, 2018*.

Projected feed grain use is lowered 5.0 million tons this month to 392.2 million, 1.1 million higher than 2017/18. Feed and residual is lowered 4.0 million tons to 141.2 million, while food, seed, and industrial (FSI) is down by 1.0 million to 186.1 million. Exports are unchanged at 64.9 million bushels. Resulting ending stocks are projected 0.3 million tons lower than December at 48.3 million, which is 9.6 million below 2017/18.

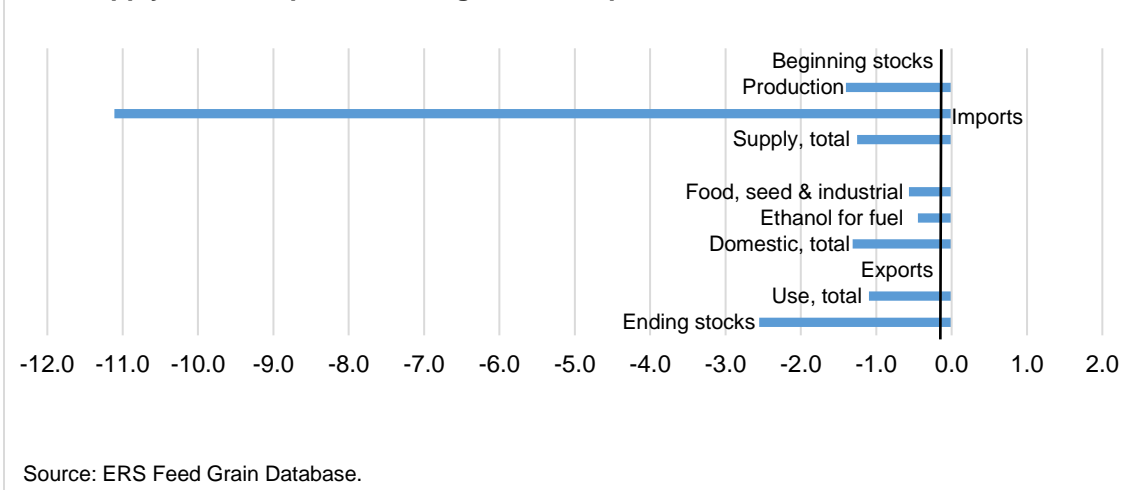
Figure 2
U.S. corn utilization



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

For 2017/18, feed grain production is revised upward by 0.1 million bushels to 391.1 million due to Census of Agriculture revisions. Feed grain use is projected 0.1 million tons higher than December at 391.1 million tons due to higher feed and residual.

Figure 3
Corn supply and use: percent change from the previous forecast



Source: ERS Feed Grain Database.

Grain Consuming Animal Units

Grain consuming animal units (GCAU) for 2018/19 are projected at 100.6 million units, down 0.3 million from last month's 100.9 million and 1.8 million units over last year. Compared with December 2018, hogs and broilers are reduced while dairy cows and heifers are slightly lower.

Other categories are unchanged. Feed and residual use per GCAU is projected at 1.47 tons, unchanged from December's projection and 0.05 million above that of 2017/18.

Feed and Residual Use: Four 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 2018/19 is projected at 148.3 million metric tons, 0.6 million below December's projection of 149.0 million and 1.8 million over the 2017/18 total of 140.6 million tons. Minor adjustments are made to feed and residual for prior years based on Census of Agriculture revisions back to 2013.

Projected 2018/19 Corn Yield Lowered

USDA's National Agriculture Statistics Service (NASS) survey-based yield estimate for the 2018/19 corn crop reported a yield loss of 2.5 bushels per acre to 176.4 bushels per acre from the November forecast. This is 205.9 million bushels below November's forecast and the third largest crop on record. Among the major corn-producing States, yields were estimated to be record high in Nebraska, Illinois, Indiana, and Ohio.

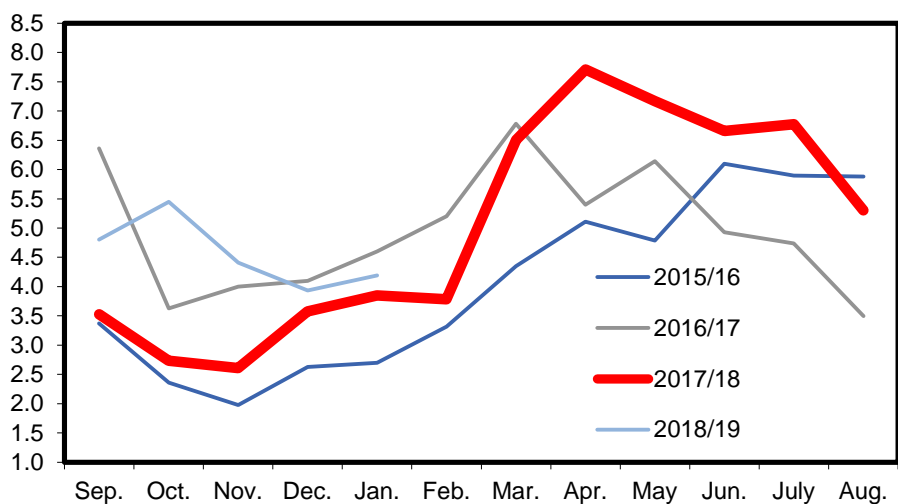
Supplies are projected at 16,600 million bushels, with beginning stocks unchanged and lower production and imports. Supplies are projected the third highest ever, after 2016 and 2017. Projected production slipped 206 million bushels to 14,420 million this month mostly on reduced yields. There is a 27,000-acre reduction in projected harvested acreage to 81.7 million acres.

Lower Disappearance Projected for 2018/19

This month's projection for total use is lowered 165 million bushels to 14,865 million, 66 million bushels higher than 2017/18. The largest shift is a 125-million drop in feed and residual use based on December 1 stocks of 11,952 million bushels reported by the NASS *Grain Stocks* report released on February 8. 2018/19 feed and residual is projected at 5,375 million bushels, which if realized would be the second highest on record.

FSI use is lowered 40 million bushels to 7,040 million this month on a 25-million-bushel decline in forecast corn used for ethanol to 5,575 million, a 10-million-bushel drop for corn for glucose and dextrose to 385 million, and a 5-million-bushel decline in corn for high fructose corn syrup (HFCS) to 455 million. There is no change in projected exports.

Figure 4
Monthly U.S. corn exports
 Million metric tons



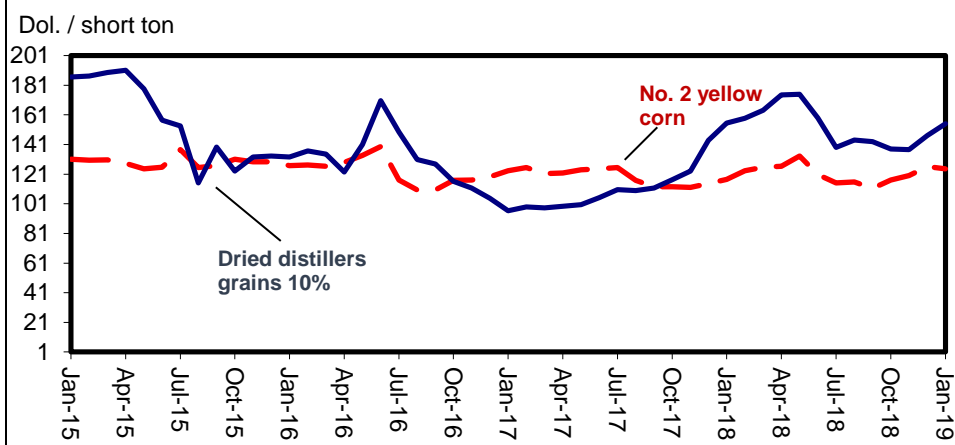
Source: USDC, U.S. Census, August 2018 *Grain Inspections*.

Resulting ending stocks are projected at 1,735 million bushels, 46 million under December's projection. The stocks to use ratio of 11.7 is 0.2 lower than that of December.

2018/19 Corn Price Unchanged From Last Month

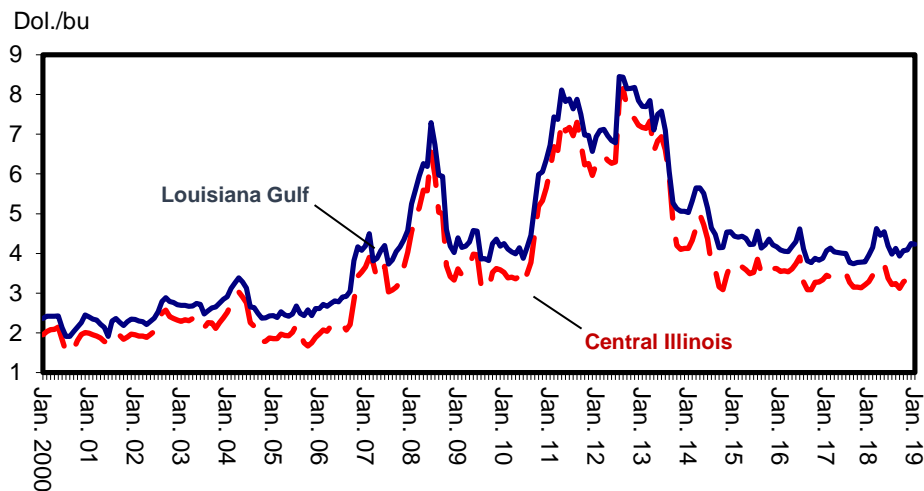
The projected average price received by farmers for 2018/19 has a range narrowed \$0.10 on each end to \$3.35 to \$3.85 per bushel for a midpoint price of \$3.60, unchanged from December's forecast.

Figure 5
Monthly prices for Central Illinois no. 2 yellow corn and corn distillers dried grains



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

Figure 6
Monthly corn (yellow #2) prices for Central Illinois and Louisiana Gulf

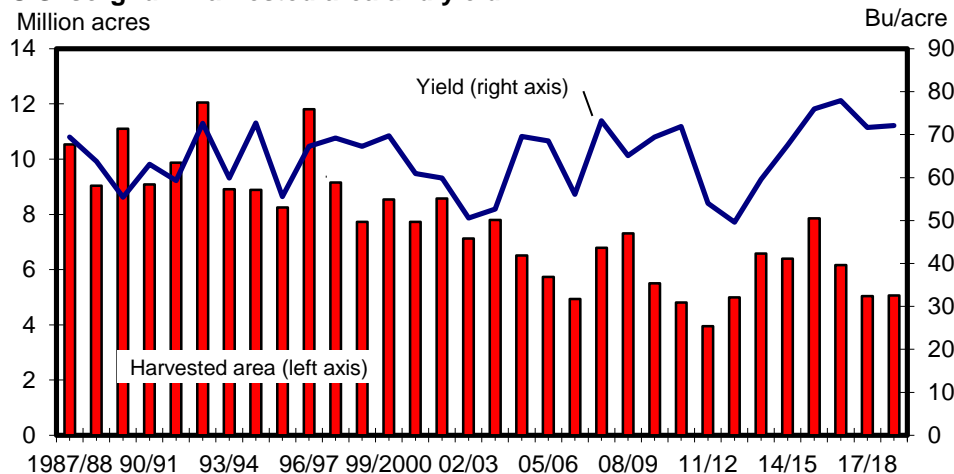


Sources: USDA, Economic Research Service, *Feed Grains Database* and USDA, Agricultural Marketing Service, <http://marketnews.usda.gov/portal/lg>.

2017/18 Sorghum Supply and Use Revised Down

Sorghum area harvested, yield, and production are marginally reduced. Area harvested is down 1,000 acres, or 0.001 million acres, a decrease of less than 1 percent. Yield is reduced from 72.1 bushels per acre to 71.7 bushels. These changes result in lower production at 361.9 million bushels, a decrease of 2.0 million bushels from December. These changes are reflected in a total supply of 397.3 million bushels.

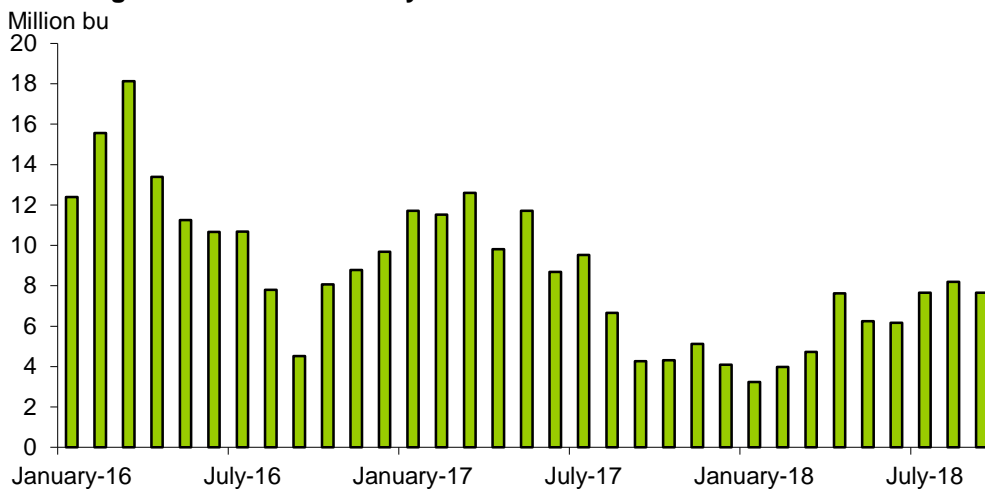
Figure 7
U.S. sorghum harvested area and yield



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

Total use of sorghum in 2017/18 is revised down from 364.5 million bushels to 362.5 million. This reduction is driven by a 3.0-million-bushel reduction in feed and residual, partially offset by a 1.0-million-bushel increase in FSI use. These changes account for the 2.0-million-bushel decrease in total use.

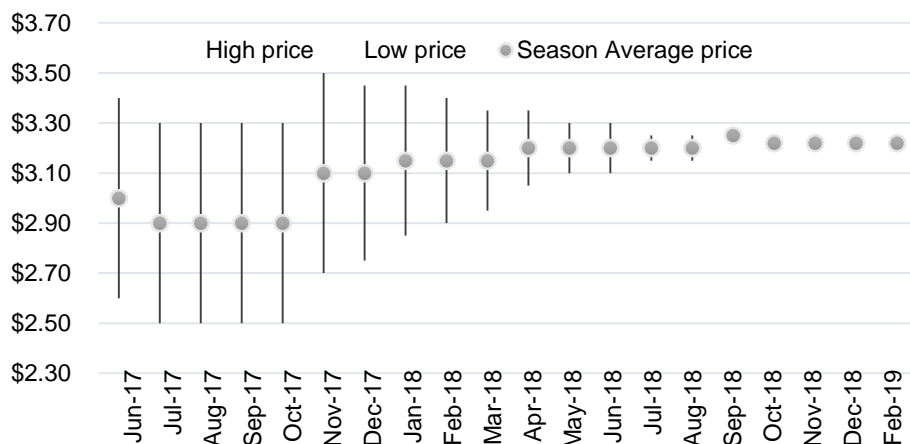
Figure 8
U.S. sorghum for ethanol use by month



Note: Months for which data were withheld to avoid disclosure are shown as null.
 Source: USDA, National Agricultural Statistics Service, *Grain Crushings and Co-Products Production*.

Ending stocks remain unchanged at 34.9 million bushels, with the offsetting changes in supply and use. There is no change to the season average price at \$3.22 per bushel.

Figure 9
WASDE sorghum price projections for 2017/18



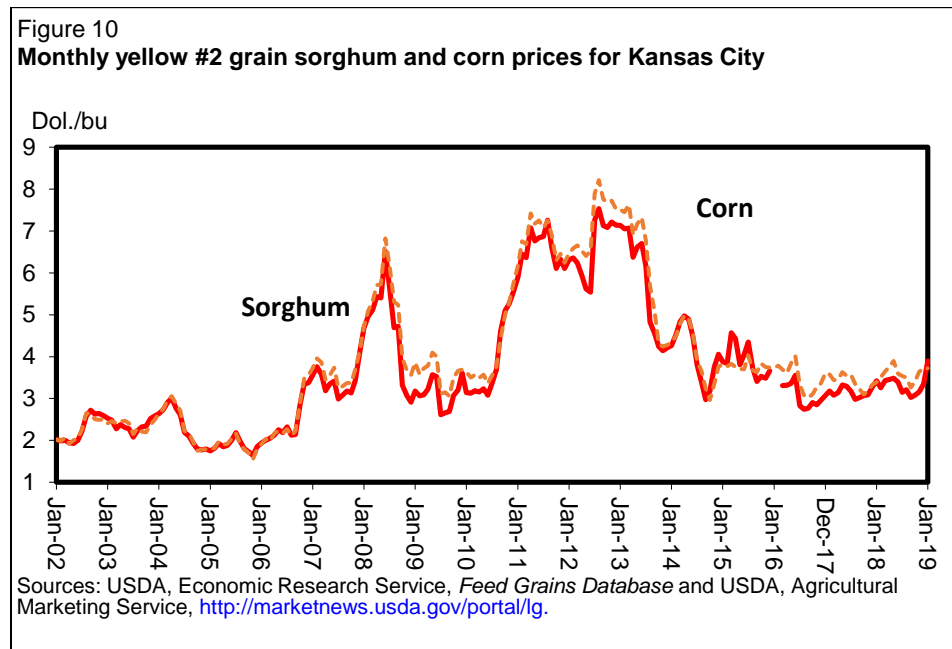
Source: USDA WASDE reports June 2017 to February 2019

2018/19 Sorghum Use Down, Resulting in Large Stocks

The area planted and area harvested are marginally reduced in 2018/19 by 0.1 and 0.03 million acres each to 5.7 million acres and 5.1 million acres, respectively. Additionally, the yield is revised up by 0.7 bushels per acre from 71.4 bushels to 72.1 bushels. These changes are reflected in a 1.3-million-bushel increase in production and total supply at 365.0 and 400.0 million bushels, respectively. Domestic use in 2018/19 is reduced by 25.0 million bushels to 235.0 million, down from 260.0 million. This is due to a 25.0-million-bushel reduction in feed and residual use based on indicated disappearance in the December 1 stocks. Ending stocks reflect these changes through a 26.3-million-bushel increase to 64.8 million bushels from 38.5 million bushels.

Domestic use is reduced by 25.0 million bushels to 235.0 million, due to a 25.0-million-bushel reduction in feed and residual from 150.0 million bushels to 125.0 million. These changes result in a 26.3-million-bushel increase in ending stocks at 64.8 million bushels, which, if realized, would be the largest since 2005/06.

The 2018/19 season-average price is reduced by \$0.05 to \$3.35 per bushel, with the high estimate of the range being \$3.60 per bushel and the low estimate being \$3.10 per bushel.



2017/18 Barley Supply and Use Projected Up

Barley area harvested is fractionally revised upward by 0.008 million acres (8,000 acres), which with a marginally higher yield of 73.0 bushels per acre results in a total production of 143.3 million bushels, a 1.3-million-bushel increase over previous projections. Total supply is also revised up to be 258.7 million bushels from 257.4 million.

With stocks known, total barley use is projected higher by 1.3 million bushels to 159.1 million bushels, offsetting the bump in supply.

2018/19 Barley Feeding Is Slashed, Use Down

Barley total supply in 2018/19 remains unchanged at 257.6 million bushels. Total barley use in 2018/19 is cut from 170.0 million bushels to a 160.0 million. This is due to feed and residual use being slashed from 15.0 million bushels to 5.0 million, based on indicated disappearance in the December 1 stocks. These changes result in a 10.0-million-bushel increase in ending stocks at 92.6 million bushels.

The projected barley price range is projected to be between \$4.35 and \$4.85, with an average farm price projection for the season to be \$4.60, up \$0.05 from the prior projection.

2017/18 Oats Supply Projected Higher With Use

Oats total supply in 2017/18 is revised fractionally higher on an acreage increase to 189.3 million bushels, from 189.1 million. With stocks known, total use is fractionally increased to 145.8 million bushels, offsetting for the increased supply. This 0.2-million-bushel change is accounted for with an increased feed and residual use at 68.3 million bushels, up from 68.1 million. Total use is projected at 148.2 million bushels, up from 148.0 million. Ending stocks and price remain unchanged from prior estimates at 41.0 million bushels and \$2.59 per bushel, respectively.

2018/19 No Change From Prior Forecast

Total supply of oats in 2018/19 remains constant at 192.1 million bushels. Domestic use also is unchanged from prior estimates at 154.0 million bushels, as is ending stocks at 36.1 million bushels.

The projected price range is projected down by \$0.10 on the high end and up \$0.10 on the low at \$2.40 and \$2.90 per bushel, respectively, with a season-average price projection of \$2.65 per bushel.

International Outlook

Argentine Corn Area and Yields Projected Higher

Global coarse grain production in 2018/19 is reduced 1.5 million tons this month to 1,372.1 million, while foreign production is up 3.7 million tons, supported by increased corn crops for Argentina, China, and Ukraine. Reduced corn production in the United States (see domestic section above) is more than offsetting and driving down the global output.

Argentine coarse grain production is projected up 3.6 million tons to 53.9 million, with improved area and yield prospects boosting corn production 3.5 million tons to 46.0 million and barley 0.5 million to 4.5 million. Ample and timely rains in the last 2 months combined with mostly mild temperatures support higher yields. However, in the northern part of the country, some of the corn crop was planted only recently, so weather in coming months will have an impact on corn yields. The harvest of early corn is expected to begin in March.

The **Chinese** National Bureau of Statistics (NBS) has released 2018/19 corn production estimates based on survey data. These indicate a yearly decline in corn area much smaller than expected, less than 1 percent from a year earlier, to 42.1 million hectares, generating a crop of 257.3 million tons, up 1.3 million this month. Corn area decline in China started in 2016/17 after the government removed price support for this crop. Since then, corn stocks in China declined by about 15 million tons, or almost 7 percent.

The **Ukrainian** corn production forecast for 2018/19 is up another 0.5 million tons this month to 35.5 million, with yields accounting for most of the increase, based on estimates reported by the State Statistical Service of Ukraine. The currently projected corn yield is 18 percent above the previous record. Ukraine has been enjoying ideal corn-growing conditions this year, and the country is expanding investment in its crop production technology.

Corn output is up for the **EU**, with yields in **Romania**, the country bordering Ukraine, topping last year's record. Romanian corn yields substantially improved after farmers started to plant corn much earlier than usual, so that the crop went through pollination earlier and escaped predictable July heat. **EU** corn is projected up 0.3 million tons this month to 60.7 million.

For at a glance information of global changes projected for coarse grain this month, see table A1.

Table A1 - World and U.S. coarse grain production at a glance (2018/19), February 2019

	Region or country	Production	Change in forecast ¹	YoY change ²	Comments
<i>Million tons</i>					
Coarse grain production (total)					
↓	World	1,372.1	-1.5	+15.3	
↑	Foreign	992.2	+3.7	-4.5	Changes are made for a number of countries and commodities. See table A2.
	United States	379.9	-5.2	+19.8	See section on U.S. domestic output.
World production of coarse grains by type of grain					
CORN					
↓	World	1,099.6	-0.3	+24.0	
↑	Foreign	733.3	+4.9	+28.8	Higher prospects in Argentina, China, and Ukraine are partly offset by reductions in South Africa and Mexico. See table A2 and map A1.
↓	United States	366.3	-5.2	-4.8	See section on U.S. domestic output.
BARLEY					
↓	World	140.6	-0.1	-3.6	
↓	Foreign	137.3	-0.1	-2.9	Higher output projected for Argentina is more than offset by lower output in European Union. See table A2 and map A2.
	United States	3.3	No change	+0.2	See section on U.S. domestic output.
SORGHUM					
↓	World	58.4	-0.5	+0.7	
↓	Foreign	49.1	-0.5	+0.6	Reductions in Argentine and Australian output. See table A2.
	United States	9.3	Small change	+0.1	See section on U.S. domestic output.
RYE					
↑	World	10.6	+0.1	-1.7	
↑	Foreign	10.4	+0.1	-1.6	Very small changes projected for Russia and Argentina.
	United States	0.2	No change	-0.1	See section on U.S. domestic output.
OATS					
↓	World	22.2	-0.5	-1.2	
↓	Foreign	21.4	-0.5	-1.3	Lower oats output is projected for Chile, Argentina, Russia, and Ukraine.
	United States	0.8	No change	+0.1	See section on U.S. domestic output.
MILLET					
↓	World/Foreign	25.9	-0.1	-2.0	Adjustments for Russia and Ukraine.
¹ Change from December 11, 2018. ² YoY: year over year changes.					
For changes and notes by country, see table A2.					
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.					

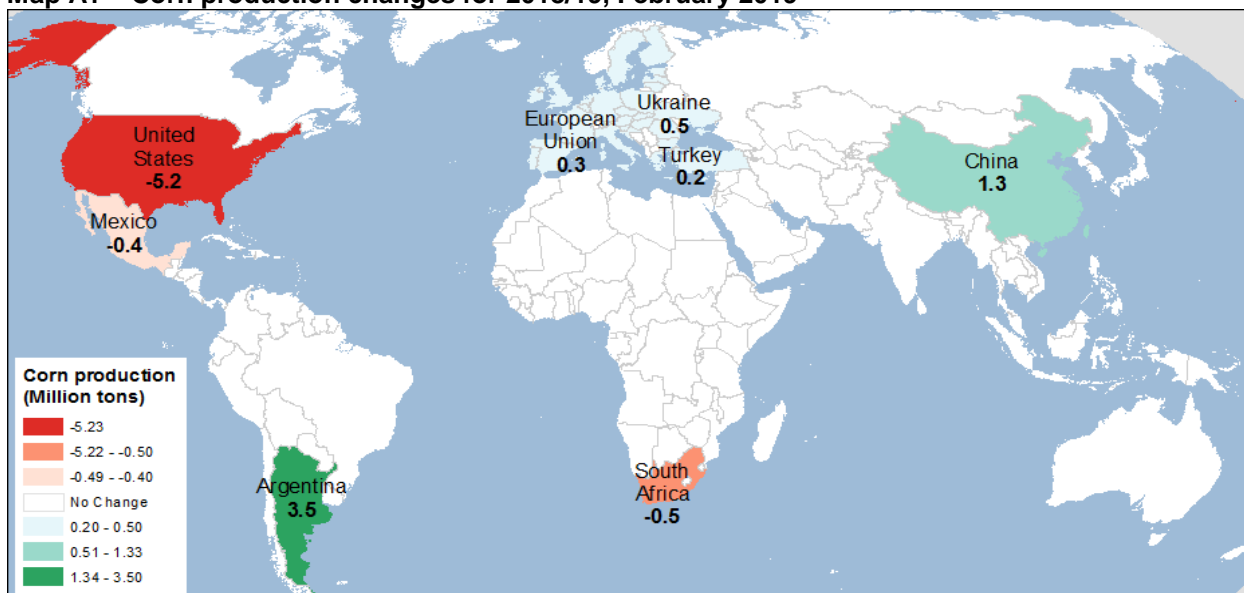
See table A2 below for the specific causes of the revisions and details of this month's changes in coarse grain production, by country and type of grain.

Table A2 - Coarse grain foreign production by country at a glance, February 2019

	Type of crop	Crop year	Production	Change in forecast ¹	YoY ² change	Comments
<i>Million tons</i>						
Coarse grain production by country and by type of grain (2018/19)						
ARGENTINA						
↑	Corn	Mar-Feb	46.0	+3.5	+14.0	Corn crop area is reported 0.3 million hectares higher, while excellent moisture and low temperatures boost corn yields to 8.36 tons per hectare.
↑	Barley	Dec-Nov	4.5	+0.5	+0.8	Barley output is projected higher than expected based on higher area from latest harvest reports.
↓	Sorghum	Mar-Feb	2.8	-0.4	-0.2	Sorghum yields are adjusted lower, as it appears that a larger-than-expected share of area for this crop was planted on marginal land.
↓	Oats	Mar-Feb	0.5	-0.1	Small change	Area is projected lower as a larger part of fields was reportedly used for grazing.
CHINA						
↑	Corn	Oct-Sep	257.3	+1.3	-1.7	The changes are based on the December National Bureau of Statistics (NBS) report that suggested higher projected corn area.
EUROPEAN UNION (EU)						
↑	Corn	Oct-Sep	60.7	+0.3	-1.3	Corn yields are pushing record further in Romania, where production is up 0.5 million tons to 14.0 million. Corn output in Sweden is projected lower, down 0.2 million tons.
↓	Barley	Jul-Jun	56.3	-0.6	-2.5	Country reports suggest lower barley yields in Ireland and Sweden.
UKRAINE						
↑	Corn	Oct-Sep	35.5	+0.5	+11.4	A preliminary harvest report by the Ukrainian Statistical Agency suggests higher harvested area and yields for corn. Final report is expected to be published in March 2019.
↓	Barley	Jul-Jun	7.4	-0.2	-1.3	A preliminary harvest report by the Ukrainian Statistical Agency suggests lower barley yields. Final report is expected to be published in March 2019.
MEXICO						
↓	Corn	Oct-Sep	25.6	-0.2	-1.9	Corn area is revised down based on official government reports (SADER). Rains in November prevented farmers from harvesting in several states (such as Chiapas and Puebla).
SOUTH AFRICA						
↓	Corn	May-Apr	11.5	-0.5	-2.0	This year's dryness affected the most vulnerable corn-growing areas in the west of the country, with November-December rains delayed by more than 40 days.
AUSTRALIA						
↓	Sorghum	Mar-Feb	2.0	-0.2	+0.6	January dryness with less than 50 percent of normal precipitation in sorghum areas (the parts of New South Wales and Queensland that border each other) is expected to result in lower yields.
¹ Change from December 11, 2018. Smaller changes are made for several countries, see map A1 and A2 for changes in corn and barley.						
² YoY: year over year changes.						
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.						

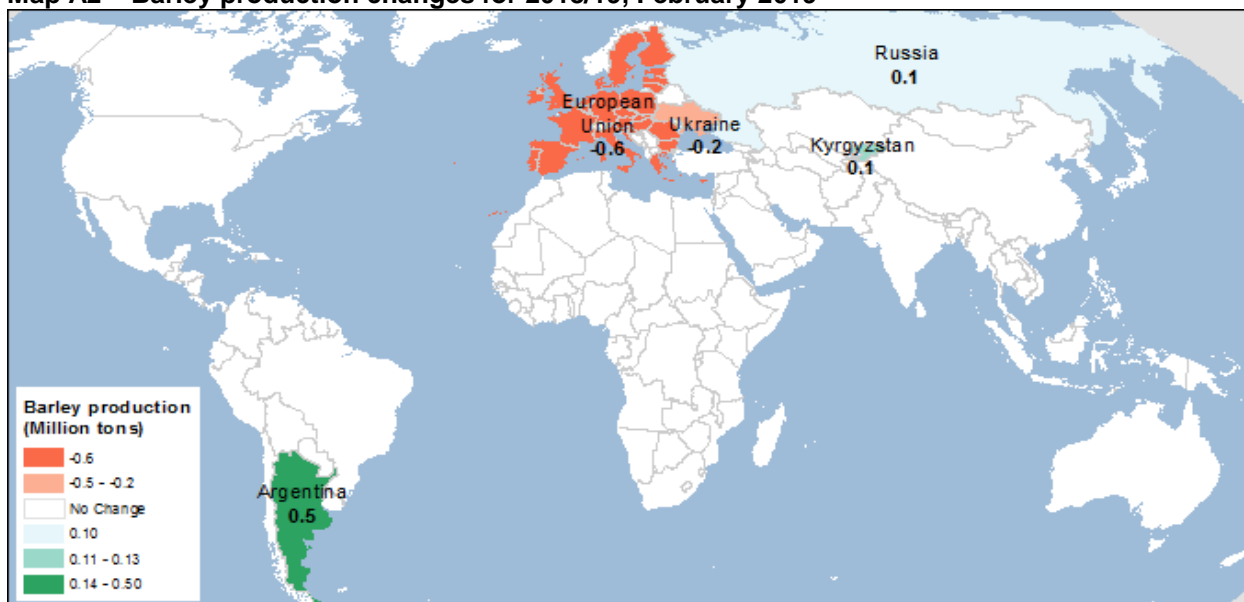
For a visual display of this month's changes in corn and barley production, see maps A1 and A2.

Map A1 – Corn production changes for 2018/19, February 2019



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

Map A2 – Barley production changes for 2018/19, February 2019



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

Coarse Grain Use Down, Driven by the United States

Global coarse grain disappearance projected for 2018/19 is down 2.5 million tons this month to 1,405.2 million. A reduction of 5.0 million tons for the forecast for U.S. use is driving the global consumption down despite higher coarse grain foreign use. The largest increase in foreign coarse grain use is projected for Argentina, up 1.4 million tons as larger supplies of corn and barley are expected to be partly consumed within the country. Barley feeding is projected 0.5

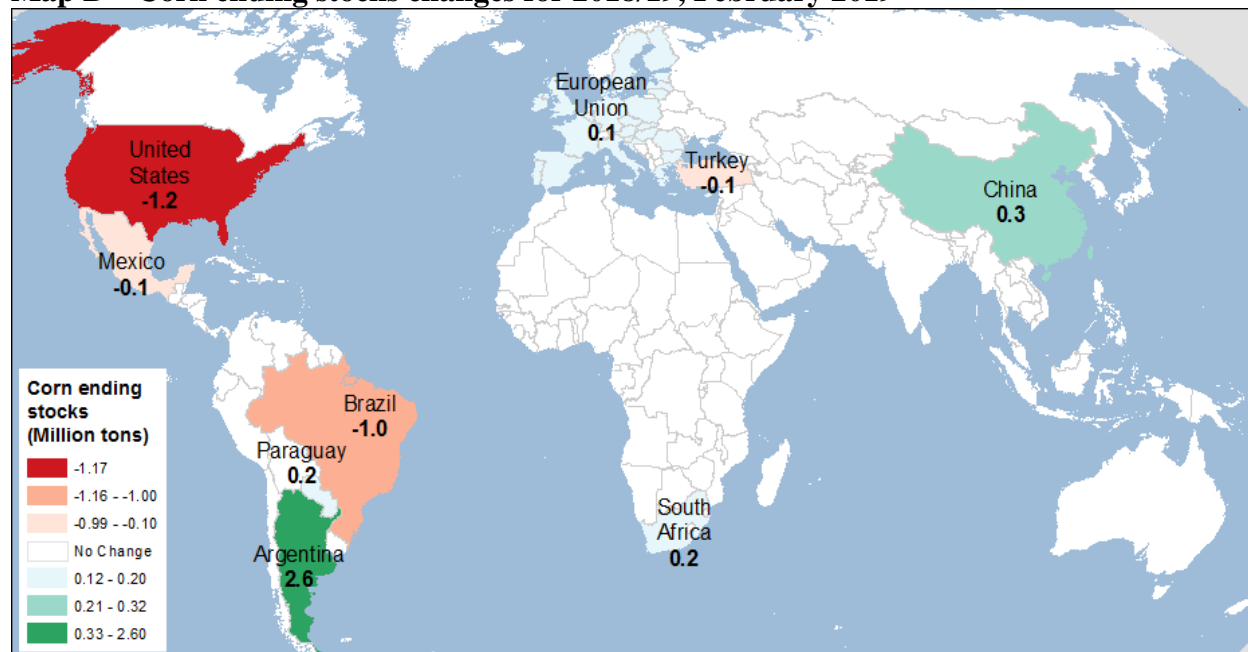
million tons higher in Ukraine despite lower production prospects, with an export revision for both 2017/18 and 2018/19, as the country turned out to have exported much less barley than expected. Barley use is also projected 0.4 million tons higher in Australia that is expected to export less barley, as China abruptly lowered its barley purchases. China imported very little barley in the last 4 months, affecting Australia as its major supplier. Production and export adjustments for Russian oats, rye, and millet reduced the country's domestic use of these crops for a total of 0.4 million tons.

Coarse Grain Stocks Are Up

A decline in global coarse grain use is steeper than a reduction in supplies, which boosted expected global ending stocks. World 2018/19 coarse grain ending stocks are forecast 1.8 million tons higher than the December projection, to reach 337.0 million. Foreign coarse grain stocks are projected up a little more, as U.S. stocks decline slightly (see the discussion in the domestic section). The largest changes in foreign stocks are a projected increase in corn stocks for Argentina, up 2.6 million tons (higher supplies), and a reduction in corn stocks for Brazil, down 1.0 million tons due to increased corn exports in 2017/18 local marketing year. All other country changes are smaller.

Map B below provides a visual display of this month's country changes in corn ending stocks.

Map B – Corn ending stocks changes for 2018/19, February 2019



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

Corn Exports Projected Higher

Projected 2018/19 world coarse grain trade for the international trade year (October-September) is projected slightly down to 198.2 million this month, with lower barley and sorghum trade that is partly offset by an increase in corn.

Corn trade is projected up 0.4 million tons this month to reach 163.6 million, but this small increase incorporates sizeable shifts.

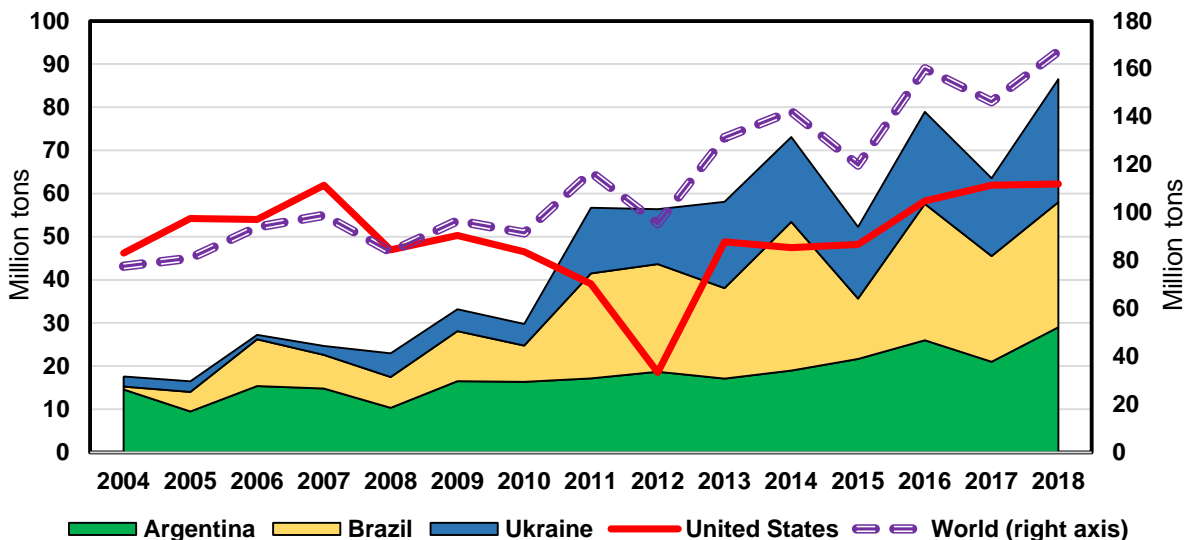
The main changes involve **southern Hemisphere** countries, where crop years (or local marketing years) by far do not match the international October-September year. In the last 2 months (December and January), the pace of **Brazilian** corn exports accelerated, partially making up for the lackluster performance earlier in 2018. Despite last year's mediocre corn harvest, Brazil is not short of exportable corn supplies. Therefore, export acceleration is not surprising, although a high pace for the tail end of the local crop season, before the start of the new corn harvest, is unusual. Fast pace of corn exports can be attributed to the slowdown of soybean exports that were especially heavy earlier in the season, competing for the country's struggling transportation system. The higher recent pace is boosting corn exports for both the local 2017/18 and the trade 2018/19 year. **Brazilian** corn exports for the 2018/19 trade year are projected 1.5 million tons higher to 28.0 million, at the same time that exports for the local crop year (March-February) for 2018/19 are left unchanged. Corn exports for the local 2017/18 year are up 1.0 million tons to 29.0 million.

Argentine corn exports for the international 2018/19 trade year are reduced 1.0 million tons to 26.5 million, at the same time as the local 2018/19 year exports are up 1.0 million tons to reach 29.0 million. Higher yields and expanded corn supplies for the current March-February (the same timeframe as for Brazil) crop year in Argentina arrive on the heels of a drought year (2017/18). Thus, the first 5 months of the 2018/19 international trade year – from October through February – coincide with the end of the scant 2017/18 crop year, and the observed slow pace of exports in this period is expected to strongly weigh on corn exports for the trade year 2018/19. On the other hand, larger projected supplies for the 2018/19 crop year can be expected to boost Argentine local 2018/19 year exports.

Corn supplies are projected higher this month in **Ukraine**, and all additional corn is expected to be shipped out of this export-oriented country, with exports reaching 28.5 million tons, on par with Brazil and Argentina. Since 2010, these three countries have captured a major share in the

continuous growth in world corn trade, driven by growing consumer incomes and demand for livestock products that require feed for expanding livestock herds.

Figure 11. Argentina, Brazil, and Ukraine capture growth in global corn trade



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

U.S. corn exports are unchanged this month at 62.0 million tons, a close-to-record level, as the November census came in again with much higher numbers than inspections previously indicated; this is the highest November exports since 2007. The disparity between inspections and census numbers is likely attributable to the truck and railroad shipments to Mexico and Canada that are by law exempted from inspections but are picked up by the census data. U.S. corn imports for 2018/19 are projected down 0.1 million tons on reduced imports from Canada.

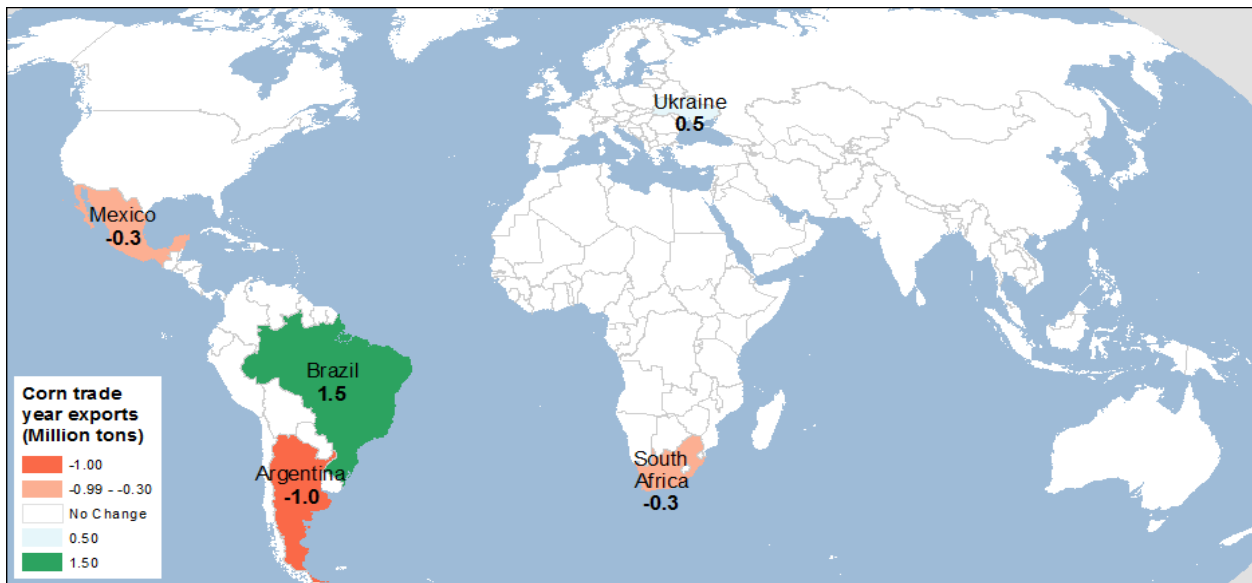
Sorghum global exports are reduced this month, down 0.5 million tons to 5.0 million, consistent with lower projected outputs for **Argentina** and **Australia**. Consequently, Chinese sorghum imports are down 0.3 million tons to 1.7 million this month.

Barley global trade is down 0.5 million tons this month to 27.0 million. Smaller barley supplies and exports in Ukraine, and the slow export pace from **Australia**, are only partly offset by higher projected Argentine barley exports. The pace of **Chinese** barley imports is slower than expected, projected down 1.2 million tons to 8.0 million, almost on par with a year ago. Declining Chinese demand for barley is easing prices from the highs of the last year. **Saudi Arabia** has been importing barley at a higher-than-projected pace, and its imports are up 0.5 million tons to 8.5 million. **Turkey** is also expected to take 0.2 million tons of additional barley.

Rye trade is up 0.2 million tons to 0.5 million this month, with higher supplies and a fast export pace from **Russia**, mainly to the EU, where oat imports are projected up 0.2 million tons.

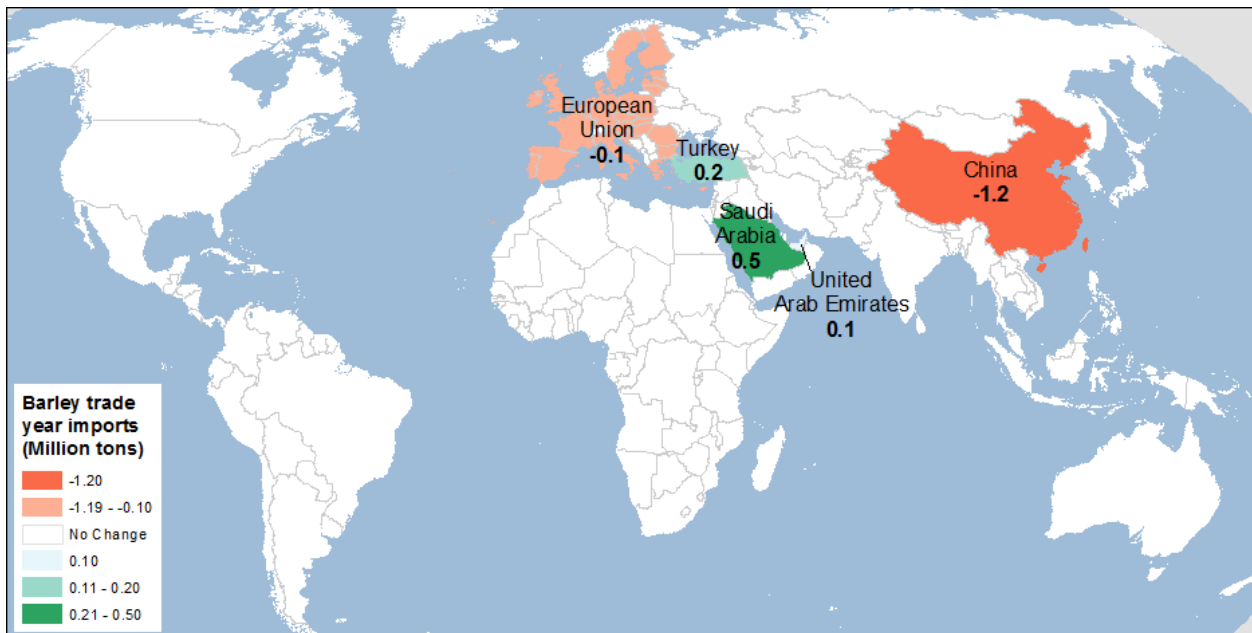
For information on this month's main changes in 2018/19 corn exports, see map C1; for barley imports, see map C2.

Map C1 – Corn trade year export changes for 2018/19, February 2019



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

Map C2 – Barley trade year import changes for 2018/19, February 2019



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

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Table 1--Feed grains: U.S. quarterly supply and disappearance (million bushels), 2/12/2019

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	Farm price 2/ (dollars per bushel)	
Corn	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	341	3,431	7,822	3.64	
		Mar-May	7,822		21	7,843	1,655	914	563	3,132	4,711	3.60	
		Jun-Aug	4,711		16	4,727	1,709	587	694	2,990	1,737	3.55	
		Mkt yr	1,731	13,602	68	15,401	6,647	5,118	1,899	13,664	1,737	3.61	
	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	2,255	349	4,347	12,567	3.21	
		Dec-Feb	12,567		9	12,575	1,738	1,503	441	3,683	8,892	3.30	
		Mar-May	8,892		8	8,900	1,782	943	871	3,595	5,305	3.58	
		Jun-Aug	5,305		9	5,314	1,793	603	777	3,174	2,140	3.46	
		Mkt yr	2,293	14,609	36	16,939	7,056	5,304	2,438	14,799	2,140	3.36	
	2018/19	Sep-Nov	2,140	14,420	6	16,567	1,706	2,275	633	4,614	11,952	3.41	
		Mkt yr	2,140	14,420	40	16,600	7,040	5,375	2,450	14,865	1,735	3.35-3.85	
	Sorghum	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	41.77	-6.14	86.30	121.93	201.58	3.17
			Mar-May	201.58		0.01	201.59	43.31	-5.53	73.46	111.24	90.35	3.10
Jun-Aug			90.35		0.01	90.36	29.73	-43.65	67.65	53.73	36.63	3.33	
Mkt yr			18.41	596.75	4.59	619.75	136.95	104.32	341.85	583.12	36.63	3.31	
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	-19.99	47.67	52.98	33.46	3.53	
		Mkt yr	36.63	480.26	1.74	518.63	114.61	132.74	237.82	485.18	33.46	2.79	
2017/18		Sep-Nov	33.46	361.87	1.91	397.24	13.92	110.13	45.71	169.75	227.49	3.05	
		Dec-Feb	227.49		0.05	227.55	10.24	5.72	71.33	87.29	140.26	3.18	
		Mar-May	140.26		0.01	140.27	15.46	-14.11	73.58	74.93	65.33	3.40	
		Jun-Aug	65.33		0.04	65.38	20.44	-4.45	14.53	30.52	34.85	3.78	
		Mkt yr	33.46	361.87	2.02	397.35	60.06	97.29	205.15	362.49	34.85	3.22	
2018/19		Sep-Nov	34.85	364.99		399.84	25.56	111.58	16.37	153.51	246.33	3.18	
		Mkt yr	34.85	364.99		399.84	110.00	125.00	100.00	335.00	64.84	3.10-3.60	

Table 1--Feed grains: U.S. quarterly supply and disappearance, cont. (million bushels), 12/13/2018

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	2015/16	Jun-Aug	79	218	4	301	41	38	3	82	219	5.39	
		Sep-Nov	219		4	223	37	1	4	43	180	5.52	
		Dec-Feb	180		7	187	36	11	3	50	138	5.66	
		Mar-May	138		4	141	44	-5	1	39	102	5.43	
		Mkt yr	79	218	19	315	158	44	11	213	102	5.52	
	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	39	-17	1	23	153		
		Mkt yr	94	153	10	258	155	5	5	165	93	4.35-4.85	
	Oats	2015/16	Jun-Aug	54	89	18	161	18	49	0	67	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	23	10	1	34	57	2.11	
Mkt yr			54	89	86	229	77	93	2	172	57	2.12	
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	23	11	1	34	41	2.94	
		Mkt yr	50	50	89	189	78	68	2	148	41	2.59	
2018/19		Jun-Aug	41	56	19	116	19	22	0	41	75	2.55	
		Sep-Nov	75		28	103	19	17	0	36	67	2.65	
		Mkt yr	41	56	95	192	79	75	2	156	36	2.50-2.80	

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: 2/11/2019

Table 2--Feed and residual use of wheat and coarse grains, 2/12/2019

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)	Grain consuming animal units (millions)	Energy feeds per grain consuming animal unit (tons)
2016/17 Q1 Sep-Nov	57.9	3.7	-0.0	0.2	61.8	-0.8	61.0		
Q2 Dec-Feb	38.7	0.2	0.3	0.3	39.4	-0.4	39.1		
Q3 Mar-May	24.9	0.1	-0.1	0.2	25.0	-1.7	23.3		
Q4 Jun-Aug	17.4	-0.5	0.7	0.4	18.0	4.5	22.5		
MY Sep-Aug	138.9	3.4	0.8	1.2	144.3	1.6	145.9	95.7	1.5
2017/18 Q1 Sep-Nov	57.3	2.8	-0.4	0.3	60.0	-1.5	58.5		
Q2 Dec-Feb	38.2	0.1	-0.1	0.2	38.5	-0.4	38.1		
Q3 Mar-May	23.9	-0.4	-0.1	0.2	23.7	-1.2	22.5		
Q4 Jun-Aug	15.3	-0.1	0.7	0.4	16.3	5.2	21.5		
MY Sep-Aug	134.7	2.5	0.1	1.2	138.5	2.1	140.6	98.8	1.4
2018/19 Q1 Sep-Nov	57.8	2.8	-0.4	0.3	60.6	-2.0	58.6		
MY Sep-Aug	136.5	3.2	0.3	1.3	141.3	7.0	148.3	100.6	1.5

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, 2/12/2019

Mkt year and month 1/	Corn, No. 2 yellow, Central IL (dollars per bushel)			Corn, No. 2 yellow, Gulf ports, LA (dollars per bushel)			Sorghum, No. 2 yellow, Gulf ports, LA (dollars per cwt)	
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	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	3.49	4.07	3.96	4.24		
Feb	3.51	3.45		4.14	4.15			
Mar	3.40	3.52		4.04	4.36			
Apr	3.41	3.54		3.98	4.46			
May	3.47	3.73		4.03	4.55			
Jun	3.49	3.38		4.01	4.19		7.56	
Jul	3.51	3.22		4.00	3.98			
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)			malting, Minneapolis, MN (dollars per bushel)		Oats, No. 2 white heavy, Minneapolis, MN (dollars per bushel)		
	2016/17	2017/18	2018/19	2016/17	2017/18	2016/17	2017/18	2018/19
Jun	2.36	2.05	2.85		4.70	2.58	2.95	2.88
Jul	2.33	2.05	2.85		4.67	2.61	3.17	2.84
Aug	2.08	2.10	2.78		4.70	2.34	2.98	2.91
Sep	1.95	2.10	2.60		4.70	2.29	2.87	2.91
Oct	2.00	2.10	2.60		4.70	2.67	2.97	3.18
Nov	2.00	2.36	2.60			2.84	2.94	3.22
Dec	2.00	2.61	2.60		4.85	2.92	2.73	330.50
Jan	2.00	2.65	2.60		4.85	2.97	2.90	3.28
Feb	2.00	2.81			4.85	3.07	2.96	
Mar	2.02	2.85		4.70	4.50	2.90	2.79	
Apr	2.05	2.85				2.86	2.72	
May	2.05	2.85				2.88	2.89	
Mkt year	2.07	2.45		4.70	4.72	2.74	2.90	

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/ig>.

Table 4--Selected feed and feed byproduct prices (dollars per ton), 2/12/2019

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		221.88	303.13		88.13	106.25	516.50	483.13
Mar	320.34	379.85		210.63	323.13		87.13	105.50	505.63	524.75
Apr	305.67	385.85		195.00	263.13		75.00		501.13	
May	293.68	393.55		179.50	262.50		71.00		485.30	
Jun	258.75	355.71		179.38	257.50		68.38		475.75	
Jul	326.04	341.08		200.84	253.13		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	2016/17	2017/18	2018/19
Oct	237.50	228.00	267.50	116.25	117.30	137.50	79.43	70.36	80.00	135.00	153.00	178.00
Nov	229.00	219.38	257.50	111.70	123.13	137.50	85.53	86.85	105.00	130.00	150.00	175.00
Dec	211.67	221.67	257.50	104.84	143.75	147.00	101.62	107.88	148.00	127.00	149.00	
Jan	255.60	220.00		96.30	155.50	154.80	98.25	123.68	108.10	126.00	153.00	
Feb	285.00	225.84		98.88	158.88		84.66	114.61		127.00	155.00	
Mar	284.38	275.00		98.25	164.13		80.76	99.69		134.00	165.00	
Apr	266.25	316.25		99.25	174.38		58.03	100.22		150.00	183.00	
May	245.50	293.00		100.50	174.90		48.41	98.90		156.00	189.00	
Jun	248.13	288.75		105.25	158.50		60.39	89.50		154.00	181.00	
Jul	276.25	283.75		110.63	139.30		67.10	64.50		153.00	179.00	
Aug	318.50	265.63		110.00	144.00		63.15	83.50		147.00	177.00	
Sep	301.88	266.25		111.63	142.50		67.48	84.00		149.00	180.00	
Mkt yr	263.31	258.63		105.29	149.69		74.57	93.64		136.00	154.00	

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), 2/12/2019

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
		2016/17	Q1 Sep-Nov	113.13	88.81	58.20	1,343.08	35.78	49.92
	Q2 Dec-Feb	106.71	88.53	56.36	1,371.21	36.35	52.33	0.00	1,711.49
	Q3 Mar-May	120.23	96.89	59.70	1,346.10	36.72	54.45	27.25	1,741.34
	Q4 Jun-Aug	126.90	97.13	61.09	1,371.56	37.15	47.60	2.05	1,743.49
	MY Sep-Aug	466.98	371.35	235.35	5,431.95	146.00	204.30	29.30	6,885.23
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	105.21	87.91	56.87	1,397.46	38.23	52.82	0.00	1,738.50
	Q3 Mar-May	117.97	94.42	58.56	1,388.64	38.50	55.27	28.15	1,781.52
	Q4 Jun-Aug	124.13	95.51	60.88	1,427.43	35.83	48.23	1.48	1,793.48
	MY Sep-Aug	459.00	371.35	235.73	5,604.83	149.00	206.70	29.64	7,056.24
2018/19	Q1 Sep-Nov	108.19	89.39	59.36	1,360.25	37.00	52.00	0.00	1,706.18
	MY Sep-Aug	455.00	380.00	240.00	5,575.00	150.00	209.10	30.90	7,040.00

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

Source: Calculated by USDA, Economic Research Service.

Table 6--Wholesale corn milling product and byproduct prices, 2/12/2019

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
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	15.15	17.42	16.82	13.81	14.59	39.25	32.50	28.25
Feb	16.09		17.76		14.08		39.25		
Mar	16.13		17.80		14.53		39.25		
Apr	16.23		17.90		14.65		39.25		
May	16.41		18.08		14.44		39.25		
Jun	15.64		17.31		14.77		39.25		
Jul	15.28		16.95		14.20		39.25		
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: 2/9/2019

Table 7--U.S. feed grain imports by selected sources (1,000 metric tons) 1/, 2/12/2019

Import and country/region		----- 2016/17 -----		----- 2017/18 -----		2018/19
		Mkt year	Jun-Nov	Mkt year	Jun-Nov	
Oats	Canada	1,507	819	1,483	793	772
	Sweden	27		41	41	27
	Finland	21	10	16	10	18
	All other countries	0	0	0	0	0
	Total 2/	1,556	830	1,540	845	817
Malting barley	Canada	102	38	87	44	24
	All other countries	17	17	1	0	0
	Total 2/	119	54	88	44	24
Other barley 3/	Canada	89	35	109	54	31
	All other countries	2	1	1	0	0
	Total 2/	90	36	110	54	31

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: 2/11/2019

Table 8--U.S. feed grain exports by selected destinations (1,000 metric tons) 1/, 2/12/2019

Export and country/region		----- 2016/17 -----		----- 2017/18 -----		2018/19
		Mkt year	Sep-Nov	Mkt year	Sep-Nov	Sep-Nov
Corn	Mexico	13,932	3,269	15,724	3,836	4,705
	Japan	13,557	2,760	13,183	1,286	3,316
	South Korea	5,601	1,584	5,736	149	1,542
	Colombia	4,733	1,126	5,083	1,167	1,402
	Peru	2,989	704	3,238	877	775
	China (Taiwan)	2,962	652	2,464	146	844
	Saudi Arabia	2,163	405	1,495	71	303
	Guatemala	993	241	867	114	331
	Morocco	871	288	748		102
	European Union-27	843	163	1,904	40	1
	Costa Rica	819	188	853	195	222
	Dominican Republic	807	203	639	10	247
	China (Mainland)	807	10	306	13	6
	Canada	704	249	1,663	366	627
	Sub-Saharan Africa	605	118	137	0.319	18
	El Salvador	593	178	457	49	133
	Chile	543	337	15	0.278	7
	Honduras	506	141	621	119	158
	Panama	504	133	502	153	132
	Venezuela	419	100	435	75	150
	Indonesia	351	187	147	0.867	5
	Cuba	337	79	117		
	Nicaragua	329	89	280	30	86
	Malaysia	327	28	68	5	15
	Egypt	323	121	1,332		530
	All other countries	1,652	568	3,921	164	432
	Total 2/	58,270	13,922	61,935	8,869	16,089
Sorghum	China (Mainland)	4,740	817	4,210	1,065	
	Mexico	585	151	93	35	131
	Sub-Saharan Africa	467	67	363	18	61
	Japan	224	24	357	38	20
	All other countries	25	4	188	4	204
	Total 2/	6,041	1,062	5,211	1,161	416
Barley	----- 2016/17 -----		----- 2017/18 -----		2018/19	
	Mkt year		Mkt year		Jun-Nov	
	Canada	63	18	69	45	24
	Japan	23	8	31	18	22
	China (Taiwan)	4	2	5	2	3
	Mexico	2	1	0.542	0.174	0.244
	All other countries	3	2	6	4	4
Total 2/	95	30	111	68	54	

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.