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Feed Outlook

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Few Balance Sheet Changes for 2019/20

Improved sorghum export prospects resulted in lower feed and residual and ending stocks, the only changes to the feed grain balance sheets this month. Both the corn and sorghum season average price received by farmers were lowered \$0.05 per bushel to \$3.80 and \$3.30 respectively based on prices observed to date.

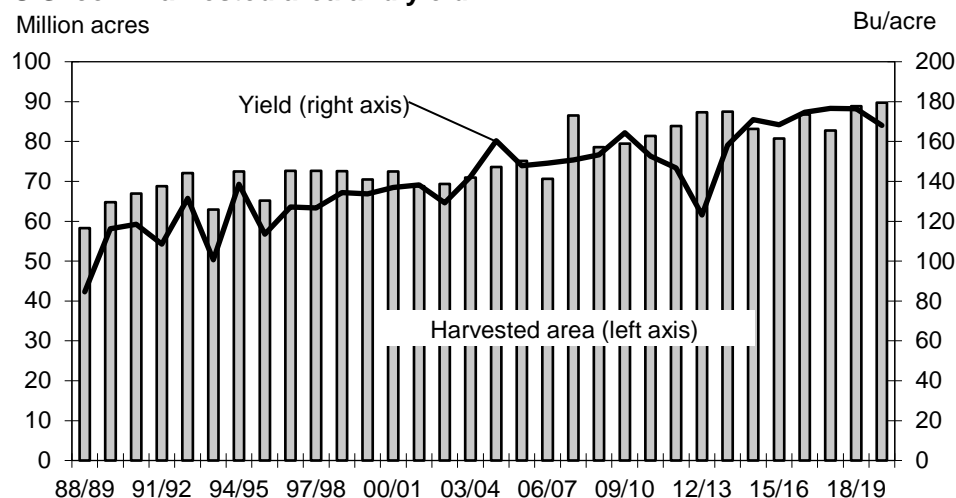
Both corn and sorghum trade are projected higher, while trade in barley is reduced. Three foreign corn exporters—Argentina, Ukraine, and South Africa—see their corn exports grow. Projected U.S. 2019/20 corn exports are left unchanged this month.

Domestic Outlook

Corn Balance Sheet Steady, Price Lowered 5 Cents per Bushel

Once again, with no new data from the National Agricultural Statistics Service (NASS) and other factors being steady, corn supply and demand is unchanged this month. Total 2019/20 projected supply remains at 15,962 million bushels and use is unchanged at 14,070 million.

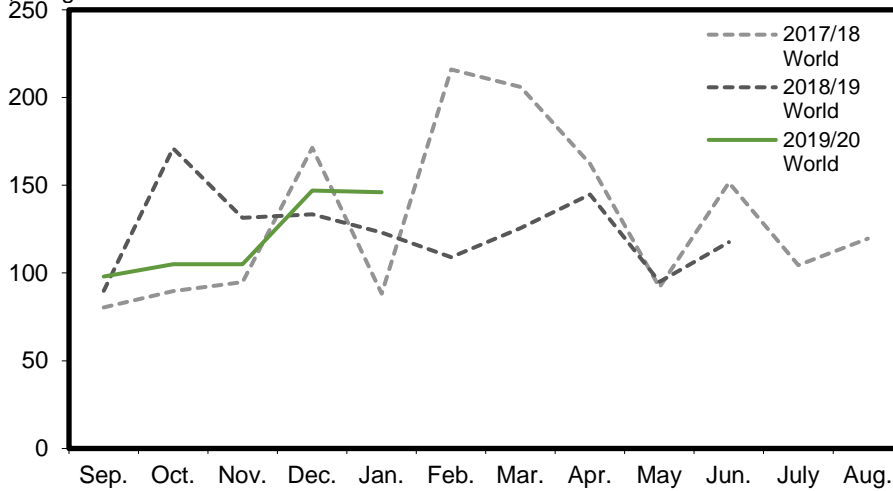
Figure 1
U.S. corn harvested area and yield



Sources: USDA, Economic Research Service with data from National Agricultural Statistics Service, QuickStats, and USDA, World Agricultural Outlook Board, Crop Projections, 2020.

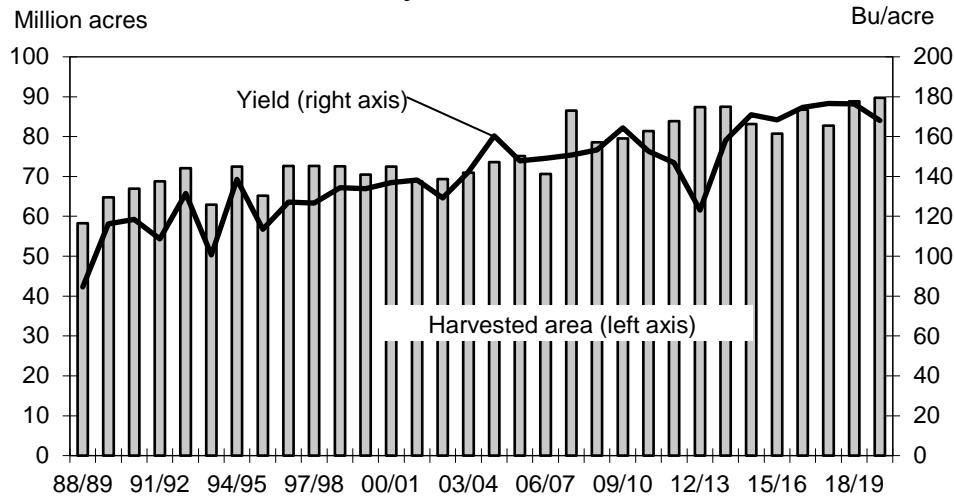
For 2018/19, corn for ethanol is raised 1.9 million bushels to 5,378.0 million on revisions in the NASS *Grain Crushings and Co-Products Production* report. As a result of this change, 2018/19 feed and residual is lowered the same amount. Total disappearance is unchanged.

Figure 2
U.S. fuel ethanol exports
 1,000 gal.



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

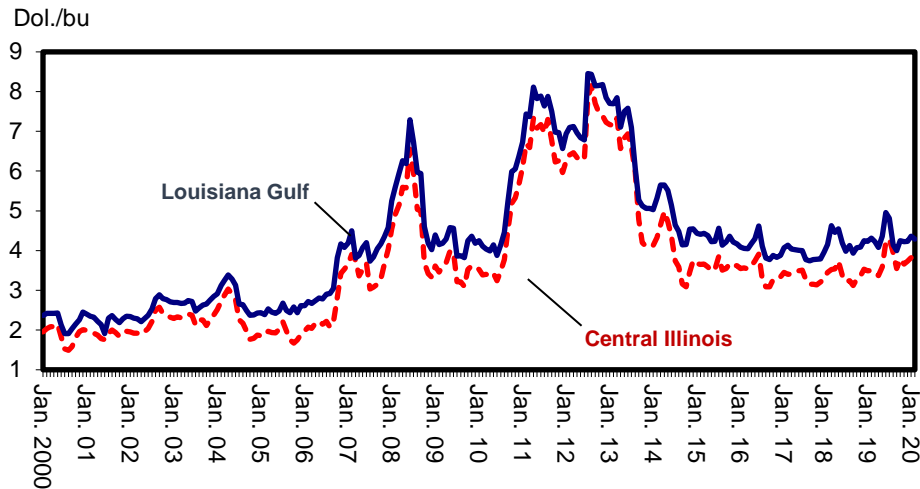
Figure 3
U.S. corn harvested area and yield



Sources: USDA, Economic Research Service with data from National Agricultural Statistics Service, QuickStats, and USDA, World Agricultural Outlook Board, Crop Projections, 2020.

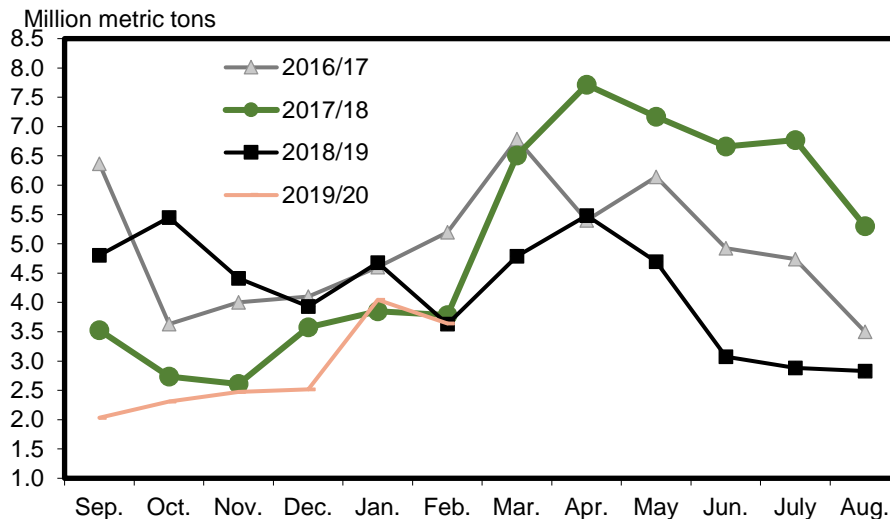
The 2019/20 season average price received by farmers for corn is projected \$0.05 per bushel lower at \$3.80 based on weighted average sales to date. The stocks to use ratio is unchanged at 13.4.

Figure 4
Monthly corn (yellow #2) prices for Central Illinois and Louisiana Gulf



Sources: USDA, Economic Research Service, *Feed Grains Database* and USDA, Agricultural Marketing Service.

Figure 5
Monthly U.S. corn exports



Source: USDA, Economic Research Service with data from U.S. Department of Commerce, U.S. Census Bureau, January 2020 Grain Inspections.

Grain-Consuming Animal Units

Grain-consuming animal units (GCAU) for 2019/20 are projected at 103.2 million units, up from last month's forecast on larger poultry production. There were no significant livestock inventory

changes. GCAUs in 2018/19 were 100.7 million units. GCAUs have been rising steadily since 2013/14, when they were the lowest since 2004. With the exception of these two years, GCAUs have generally trended upwards.

Feed and Residual Use: Four Feed Grains and Wheat

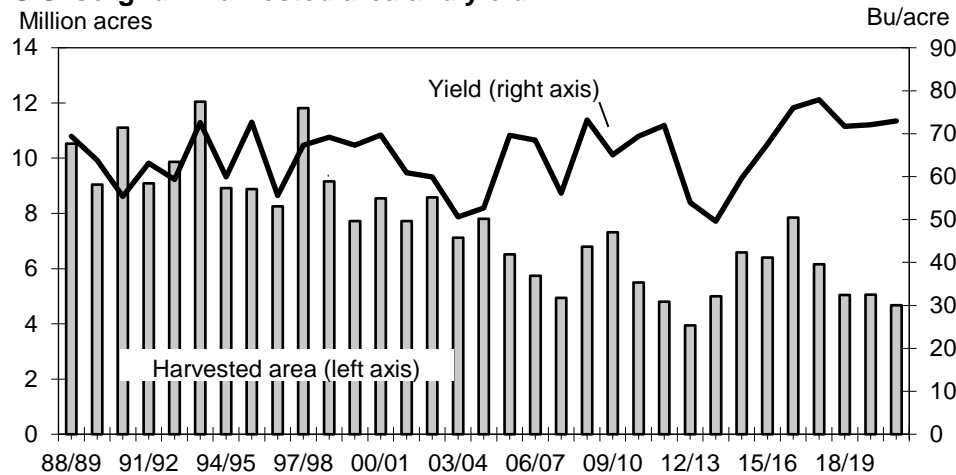
Feed and residual use for the four feed grains (corn, sorghum, barley, and oats) and wheat on a September-August marketing year basis for 2019/20 is projected at 150.2 million tons, 0.3 million below last month's projection due to a 10-million bushel decline in sorghum feed and residual use.

Sorghum Export Prospects Improve

On the basis of increased shipments to China, sorghum exports are projected 15 million bushels higher this month at 135 million bushels. As a result, feed and residual is projected down 10 million bushels at 130 million and ending stocks are lowered 5 million bushels to 35.2 million.

Figure 6

U.S. sorghum 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, *WASDE*.

The season average price received by farmers for 2019/20 is projected at \$3.30 per bushel, down 5 cents from last month, based on observed prices to date and the corn-sorghum price relationship.

Barley and Oats Balance Sheets Unchanged

There were no changes to the barley and oats balance sheet projections or season average price received by farmers forecast this month.

International Outlook

Reduction in Global Barley Exports More Than Offsets Higher Corn and Sorghum Trade

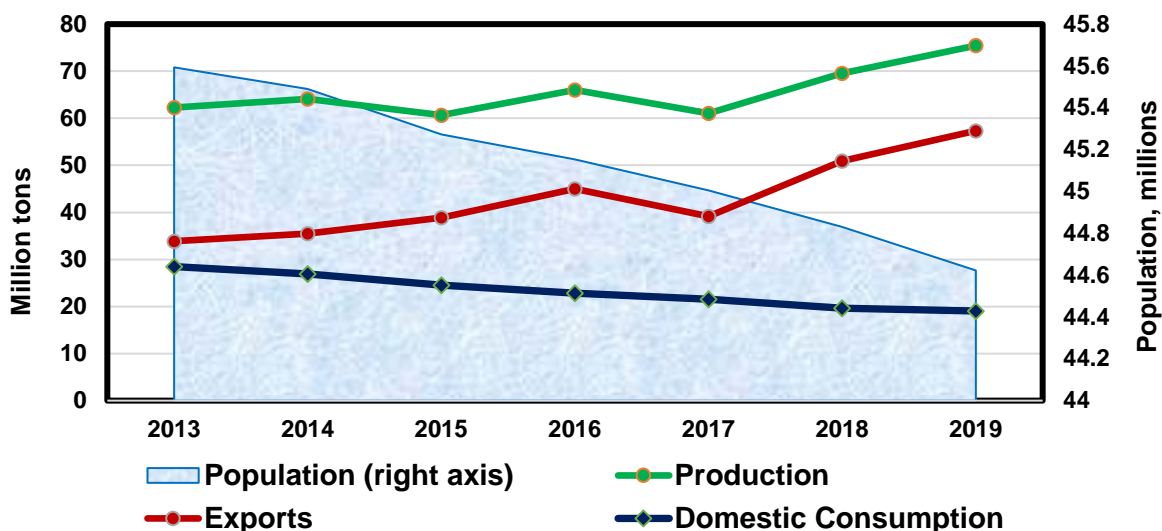
Global coarse grain trade for October-September 2019/20 is forecast down 0.6 million tons this month to 207.7 million, but still forecast to be record high. **Corn trade** is increased 0.5 million tons to 173.5 million, while **sorghum trade** is up 0.4 million tons to 4.1 million. **Barley trade** is reduced 1.5 million to 27.3 million, while both oats and rye trade are projected fractionally lower.

U.S. October–September 2019/20 corn exports are unchanged this month at 47.0 million (1,725 million bushels for the September–August local marketing year), the lowest export volume since 2015/16. U.S. corn exports have become increasingly dependent on the harvest size of its three major competitors—Brazil, Argentina, and Ukraine. This year, with projected bumper crops and depreciated currency, these countries' highly price-competitive corn is expected to continue to stifle U.S. exports.

The U.S. high price-competitiveness in corn export prices observed in January was short-lived, and since mid-February U.S. prices have been again at a premium vis-à-vis **Argentina** and **Ukraine**. Both countries are expected to export additional corn, pushing their already record-sized exports up further. Corn exports are projected 1.0 million tons higher this month for Argentina to reach a record of 34.5 million.

With declining population that reduces domestic demand, corn exports in **Ukraine** grow not only in line with, but even faster than, corn output (see figure 7). This year the country is expected to export close to 90 percent of its corn supplies and has become the most export-oriented major corn producer in the world. Corn exports are projected 1.0 million tons higher this month for Ukraine, which is also projected to export a record amount of 32.0 million tons of corn.

Figure 7. Population decline in Ukraine limits domestic corn use and boosts exports



Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database; The World Bank.

Corn exports from South Africa are projected 0.5 million tons higher to reach 2.5 million, following a production boost. The country exports of predominantly white corn go mainly to its neighboring countries—Namibia, Botswana, Zimbabwe, Mozambique, and some others.

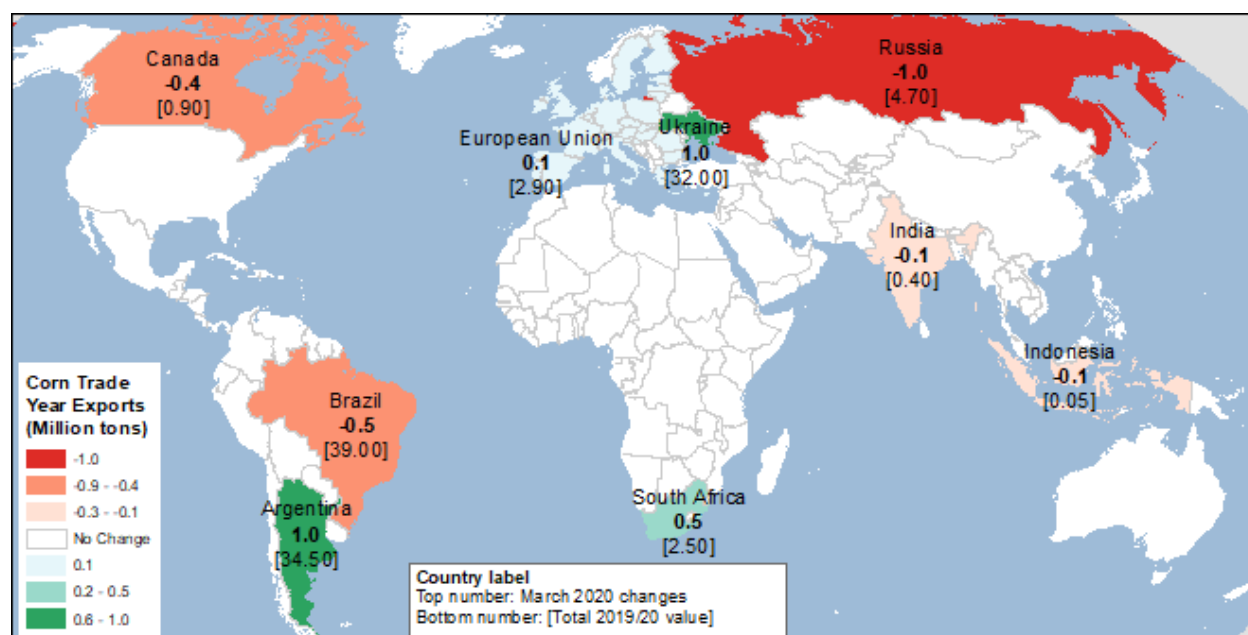
However, those increases are partly offset by reduced exports from **Russia** (down 1.0 million tons to 4.7 million), **Brazil** (down 0.5 million tons to 39.0 million), and **Canada** (down 0.4 million tons this month to 0.9 million). **Russia** has been expanding corn area in its Central District which normally produces the highest yielding corn in the country, but is not as conveniently located near seaports as the country’s main corn producing region, the South District. The location and logistics make it more expensive to export corn from the Central District. A larger share of the corn crop is being used for feeding, thereby limiting exports.

Brazilian corn exports for the 2019/20 October-September trade year are projected down 0.5 million tons to 39.0 million this month, based on the recently revised trade data. Exports for 2018/19 local marketing year (March-February) are reduced by 2.3 million tons to 39.7 million—still record-high—reflecting revised final data through February.

A protest movement against a proposed natural gas pipeline caused delays and backlogs at several ports for **Canadian** grain exports. Three weeks of disruptive activities, during which road and rail transport in certain spots was physically blockaded, decelerated grain export activity. A recently observed slowdown in corn export activity in **Canada** warrants a reduction of corn exports, down 0.4 million tons to 5.4 million this month. Corn exports are also revised for several

more countries, with changes not exceeding 0.1 million tons. For a visual display of this month's changes in corn trade year exports, see map A1.

Map A1 – Corn trade year exports changes for 2019/20, March 2020



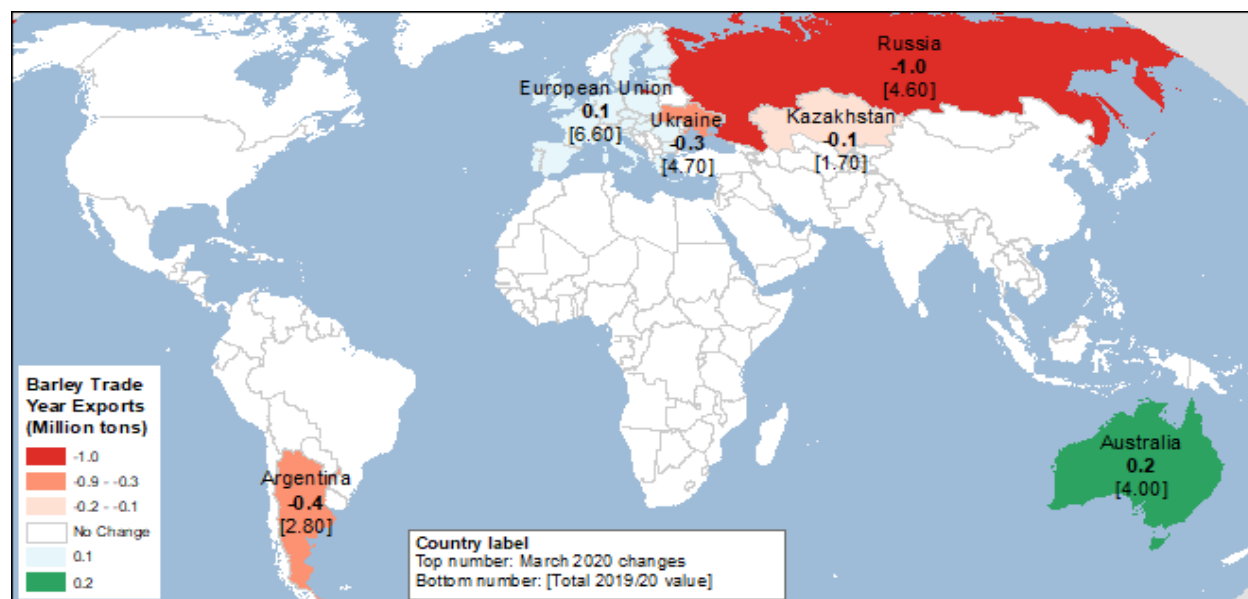
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.

Corn imports for **Canada** and **Peru** are raised by 0.5 and 0.4 million tons, respectively. Canada has a reported higher-than-expected pace of imports, mainly from the United States to the Prairies. Corn import prospects are raised for Peru, in response to lower production prospects. Both **Jordan** and **South Africa** saw their corn imports projections grow by 0.2 million tons, offsetting a reduction of barley imports for Jordan and reflecting recent statistical trade data for South Africa.

Barley global trade is projected down 1.5 million tons this month to 27.3 million, based on a sluggish export pace from **Russia** and **Ukraine** to the Middle Eastern countries. Corresponding reductions in barley imports are made for **Saudi Arabia, Iran, Jordan, and United Arab Emirates**. Russian barley exports are cut by 1.0 million tons to 4.6 million, while exports from Ukraine are down 0.3 million tons to 4.7 million. With lower projected barley output, exports are projected lower for **Argentina**, down 0.4 million tons to 2.8 million. Partly offsetting is an increase in **Australian** barley exports, up 0.2 million tons to 4.0 million, reflecting a production increase.

Barley exports are also revised for several more countries, with the changes not exceeding 0.1 million tons. For a visual display of this month's changes in corn trade year exports, see map A2.

Map A2 – Barley trade year exports changes for 2019/20, March 2020



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

U.S. larger-than-expected sales to **China** advance sorghum global exports this month, up 0.4 million tons to 4.1 million, higher than last year but, excluding that year, the lowest volume since 1964. Both U.S. exports and Chinese imports are projected 0.4 million tons higher to reach 3.4 million tons of exports for the U.S. and 1.3 million tons of imports for China.

World Coarse Grain Production Prospects Largely Offsetting

Changes in global coarse grain production in 2019/20 are largely offsetting this month at 1,402.8 million, as increase in **South African** corn, **Australian** barley, and several other production estimates are virtually offset by a reduction in the **Argentine** barley crop, as well as in corn projections for **India**, **Peru**, and **Russia** (see table A).

Although the total projected 2019/20 corn output for **Argentina** is left unchanged this month (and not reflected in table A below), corn yields for the country are reduced while the harvested area is projected higher, pushing this year's all-time area record further up. Yields are projected down by almost 2 percent, though still above the average for the last 5 years. Larger than expected area this year was planted to corn, and late-planted corn is currently going through the reproductive period (pollination and grainfill). While early-planted corn has already matured and harvest is underway in some areas, the later-planted corn will require decent rains in the coming

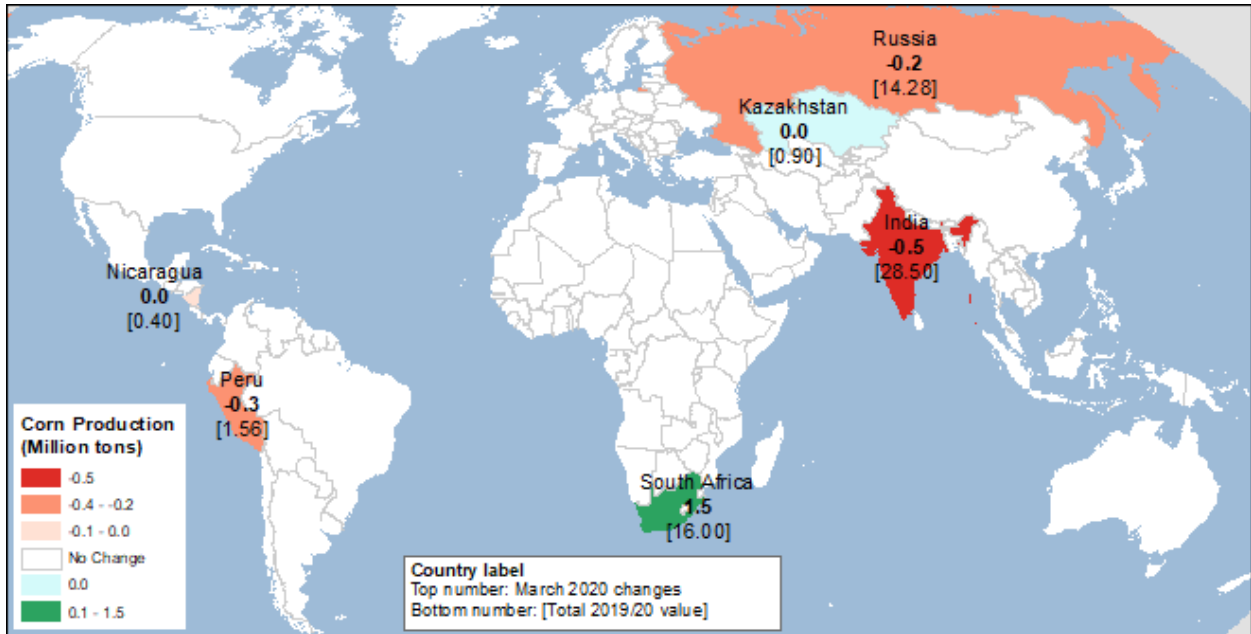
months to achieve high yields. Recent dryness in the most corn-producing regions is expected to affect final corn yields in all parts of the country, but will be especially ominous for the later-planted crop. The corn harvest has just started in Santa Fe and Entre Rio (about 3-5 percent done) and will continue through June, moving north.

See table A 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 A - Coarse grain foreign production by country at a glance, March 2020						
	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 (2019/20)						
SOUTH AFRICA						
↑	Corn	May-Apr	16.0	+1.5	+4.2	Although still not in record territory, corn yields and output are expected to get a further boost from prolonged rains since December during the critical stage of the crop reproductive period. Corn yield is currently projected at 5.3 tons per hectare, the second highest ever for the country, just behind 2016/17's record yield.
AUSTRALIA						
↑	Barley	Dec-Nov	8.8	+0.6	+0.5	Australian drought appears to impact barley to a lesser extent than wheat, especially in the southern fringe of barley area in Victoria where yields turned out to be higher than expected.
ARGENTINA						
↓	Barley	Dec-Nov	3.8	-0.8	-1.3	The crop was affected by dryness in Buenos Aires and La Pampa; harvested area and yields are both projected lower.
PERU						
↓	Corn	Oct-Sep	1.6	-0.3	Unchanged	Cheap import competition limits corn area, while heavy rains late in the season reduced yields.
RUSSIA						
↓	Corn	Oct-Sep	14.3	-0.2	+2.9	An adjustment based on final harvest results from the Russian statistical agency, ROSSTAT.
INDIA						
↓	Corn	Nov-Oct	28.5	-0.5	+0.8	A change in line with the second advanced estimate of the Indian Ministry of Agriculture. Corn area is projected lower while yield inched higher, boosted by excellent precipitation, and approaching the all-time record.
↑	Millet	Nov-Oct	10.9	+0.2	+0.7	A change in line with the second advanced estimate of the Indian Ministry of Agriculture. India produces 30 percent of world millet. There is no recorded millet trade.
↓	Sorghum	Nov-Oct	4.4	-0.1	+0.9	A change in line with the second advanced estimate of the Indian Ministry of Agriculture. While yields are projected 7 percent higher, area is projected lower as farmers are shifting away from sorghum.
↓	Barley	Apr-Mar	1.6	-0.1	-0.1	A change in line with the second advanced estimate of the Indian Ministry of Agriculture.
¹ Change from previous month. Changes smaller than 0.1 million tons for coarse grain output are made for several countries.						
For changes in corn and barley production, see maps B1 and B2.						
Source: USDA, Foreign Agricultural Service, Production, Supply and Distribution online database.						

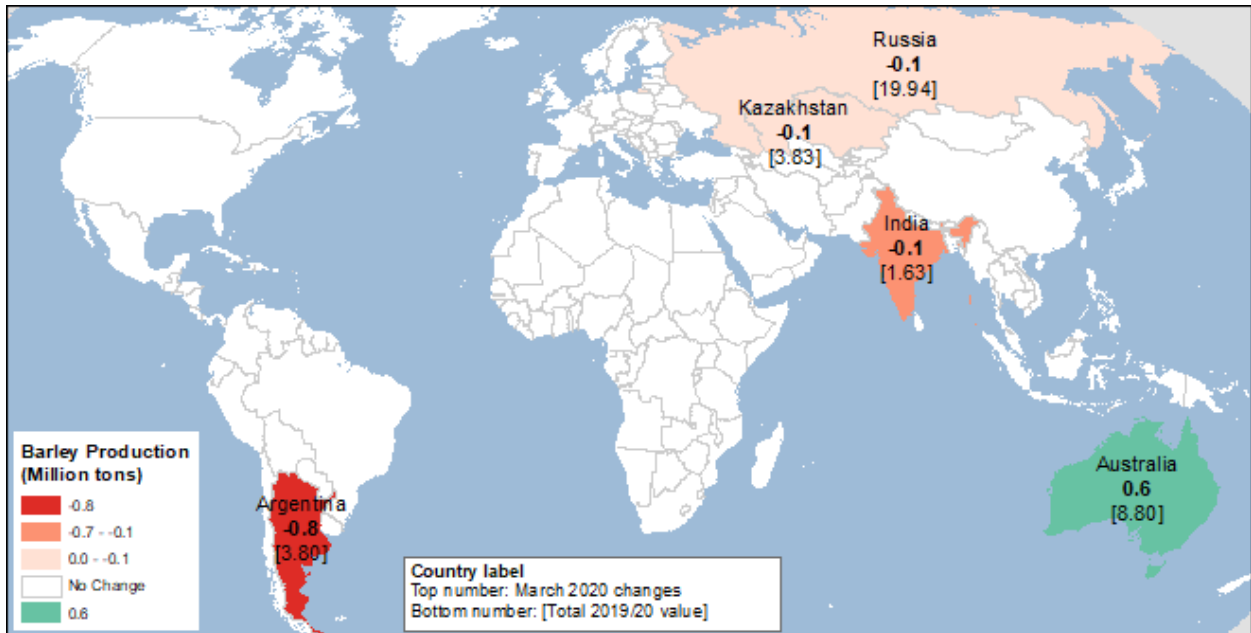
For a visual display of this month's changes in corn and barley production, see maps B1 and B2 below.

Map B1 – Corn production changes for 2019/20, March 2020



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

Map B2 – Barley production changes for 2019/20, March 2020



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

Coarse Grain Consumption Revisions are Offsetting

World coarse grain domestic consumption is virtually unchanged this month.

Most changes in grain domestic use this month follow the revisions in production and trade. For **Ukraine**, a steady population decline has been taking an apparent toll on corn consumption, (as well as that of other commodities). Consumption series for feed and residual, and food and industrial use, have been revised lower based on observed export data during the 2019/20 marketing year. This month Ukrainian corn feeding is projected down 0.5 million tons to 3.3 million for 2019/20. Freed amounts of grain are being exported, which supports higher growth for corn exports than production ([see figure 7 above](#)).

Corn feeding is raised for **Brazil** for two consecutive years, up 0.5 million tons for 2019/20 and 1.6 million tons for 2018/19. With reduced exports, the country is expected to use more corn for its growing poultry sector.

Corn use is also projected 0.5 million tons higher in **Russia**, which is expected to feed a larger share of the crop produced in its Central Region, where livestock production is increasing and the region's location is not beneficial for exports ([see trade section of the report](#) above).

For **Australia**, barley feeding is up 0.2 million tons to 3.2 million, the largest barley feeding in 10 years, as larger projected output freed up additional supplies to satisfy higher demand for grain feeding. Because of the drought in the eastern part of the country that destroyed pastures, the number of cattle in the feed lots rather than being grass fed is much larger than normal.

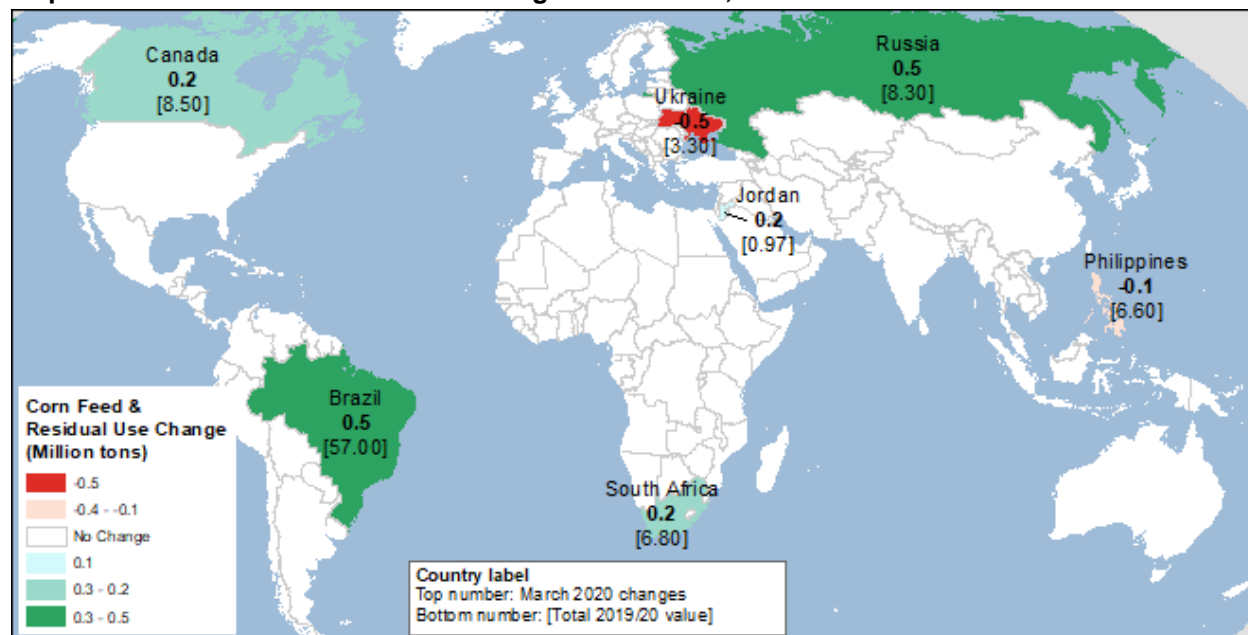
Corn use is also projected 0.2 million tons higher in **Canada**, which is expected to import more corn into its Prairies from the United States while exporting less because of logistical disturbances ([see trade section](#)).

Lower barley feeding in **Saudi Arabia**, down 1.1 million tons to 7.4 million (still a substantial amount and above last year's 7.0 million), reflect reduced imports. Higher feeding of barley in **Russia** and **Ukraine** stem from decreased exports.

Domestic use of sorghum is projected higher for China this month, up 0.3 million tons to 2.0 million. However, this volume remains the lowest since 2013 when the United States started to expand sorghum exports to China.

For a visual display of this month's changes in corn feed and residual use, see map C below.

Map C – Corn feed and residual use changes for 2019/20, March 2020



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

Coarse Grain Stocks Inch Higher

With a fractional change in global coarse grain use, beginning and ending stocks moved in sync, up 0.5 and 0.7 million tons, respectively.

The largest changes in foreign stocks are made for **South Africa, Canada, Russia,** and **Argentina**. In South Africa, corn stocks are projected 0.7 million higher to 2.7 million. Consistent with the country's lower exports and increased imports, Canadian corn stocks are projected 0.5 million tons higher to reach 4.1 million. For Russia, a decline in corn exports is partly offset by lower output and higher feeding, lifting corn stocks by 0.2 million tons to 0.7 million. A reduction in corn stocks for Argentina takes the country down 1.0 million tons due to increased corn exports. All other country changes are smaller.