

Crops Marketing and Management Update

Grains and Forage Center of Excellence

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Topics in this Month's Update:

1. **October *Crop Production* Report: USDA Increases Corn Yield but Reduces Soybean Yield**
2. **October *WASDE* Report: Could Soybeans be Developing a Less Bearish Story?**
3. **Short-Term Precipitation and Temperature Outlook**
4. **2019 Corn and Soybean Harvest Progress**
5. **2019 Corn, Soybean, and Wheat Basis vs. Previous Years**
6. **Projected Corn, Soybean, and Wheat Futures Trading Ranges to July 2020**
7. **Pre-Harvest 2020 Corn, Soybean, Wheat, and Double-Crop Soybean Risk Management Opportunities**
8. **2019 Projected Return to Storage for Corn and Soybeans**
9. **Post-Harvest 2019 Corn and Soybean Risk Management Opportunities**
10. **Potential 2019-20 Corn and Soybean Balance Sheets and Price Potential**
11. **Upcoming Grain Outlook and Risk Management Webinars**
12. **How Do I Get on the Email Distribution List to Receive this Newsletter?**

Topic 1. October *Crop Production* Report: USDA Increases Corn Yield but Reduces Soybean Yield

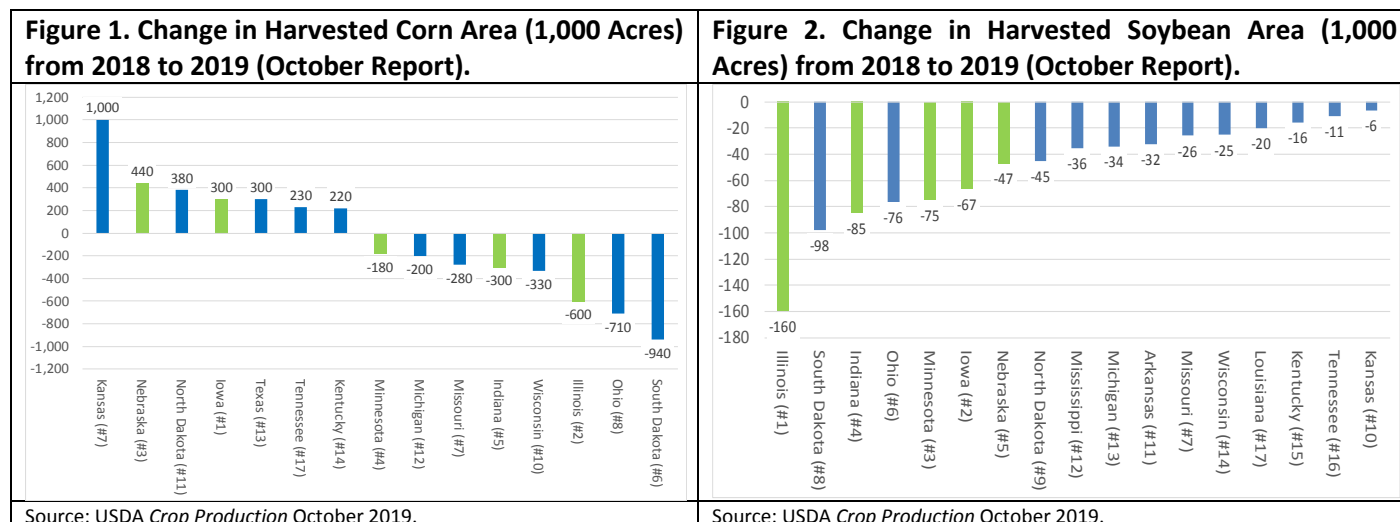
Analysts surveyed before the October *Crop Production* report was released expected USDA to revise both the 2019 corn and soybean production lower from the September estimates. The analysts expected the corn yield to be trimmed by 1.4 bushels/acre (BPA) and the soybean yield trimmed by 0.8 BPA from the September report. The yield reductions, combined with the expectation of reduced harvested area for both crops, led analysts to believe the 2019 corn and soybean crops would be reduced by 188 and 62 million bushels, respectively, from the previous month.

The October *Crop Production* report surprised the corn market by reducing the 2019 corn crop slightly from the September report. USDA increased the corn yield by 0.2 BPA but reduced the harvested area by 200 thousand acres. The net effect of these changes on the size of the 2019 corn crop was a 20 million bushel reduction from the September estimate. If realized, the 2019 corn crop will be 641 million bushels less than last year's crop.

Figure 1 shows the change in harvested corn area from 2018 to 2019 for selected corn states. Each state's average production ranking is included with the state name, and the top-five corn-producing states are shaded green. The extreme spring weather throughout the Midwest region is evident when comparing the change in harvested area from last year. The top-five corn-producing states are projected to harvest 340 thousand fewer acres this year. Figure

1 shows the regional differences for the 2019 corn crop harvested acres. The states east of the Mississippi River (IL, IN, OH, MI, and WI) are projected to harvest 2.1 million fewer acres this year.

In contrast, Iowa and Nebraska are likely to harvest 740 thousand more acres than last year, and Kansas will harvest 1 million more acres this year as compared to 2018. While Nebraska and Iowa are projected to harvest more acres this fall than last year, South Dakota and Minnesota are projected to harvest 1.1 million fewer acres. Overall, the Midwest region is projected to harvest 1.4 million fewer acres this year as compared to 2018.



The change in the projected soybean harvested area from 2018 is shown in Figure 2. USDA projects U.S. soybean harvested area to decline by 11.9 million acres from last year, with harvested area lower across the Midwest Region and the Southern Region. The top-five soybean states, shaded green in Figure 2, are projected to harvest 3.3 million fewer acres than in 2018. Illinois has the largest reduction in harvested area, down 160 thousand acres from 2018. The states east of the Mississippi River (IL, IN, OH, MI, and WI) are projected to harvest 2.9 million fewer acres than last year. Similarly, Iowa and Nebraska are projected to harvest 1.3 million fewer acres, and South Dakota and Minnesota will harvest 2.85 million fewer acres. Overall, the Midwest Region is projected to harvest 9.3 million fewer acres this fall than in 2018.

Table 1 provides the updated projected corn yields from the October report with a comparison to the September estimates and the final yields for the 2018 crop. USDA increased the projected yields in the Midwest in all states except South Dakota (-2 BPA), Missouri (-5 BPA), and Illinois (-1 BPA) from the September report. Even with the increased projected yields throughout the Midwest from last month's report, corn yields for the Midwest states will mostly be lower except in Missouri (+20 BPA) and Kansas (+7 BPA) when compared to 2018. The states east of the Mississippi River are projected to have greater yield loss as compared to those states west of the river. For example, Illinois, Indiana, and Ohio are projected to have -30 BPA, -28 BPA, and -29 BPA, respectively, compared to 2018. In contrast, Iowa and Nebraska are projected to have corn yields that are -5 and -6 BPA below their respective 2018 yields.

Corn yields in the Southern states are projected to be higher than 2018 in Alabama (+5), Kentucky (+2), Oklahoma (+6), Tennessee (+7), Texas (+32), and Virginia. The rest of the Southern states projected to have smaller yields than in 2018.

The 2019 U.S. corn yield is currently projected at 168.4 BPA, which is a 0.2 BPA increase from the September estimates but an 8 BPA reduction from the 2018 corn yield.

Table 2 reports the projected soybean yields for the Midwest and Southern states from the October report with a comparison to last month's projections and the 2018 final soybean yield. USDA increased the projected soybean yield in Michigan by 2 BPA from last month's projections. The rest of the Midwest states had their projected yield unchanged or reduced with the largest downward adjustment for Illinois (-2 BPA). Compared to 2018, only Missouri and Kansas are projected to have higher yields. The rest of the states will have lower yields with Illinois, Indiana, Ohio, and Michigan projected to have yields reduced by 11, 9, 8, and 6 BPA, respectively, compared to last year.

Sine Southern states are projected to have higher soybean yields this year in Alabama (+4), Kentucky (+2), North Carolina (+5), South Carolina (+5), and Tennessee (+5) compared to last year. The rest of the Southern states are projected with reduced yields, with Georgia projected to have 7 BPA decline from 2018 (Table 2).

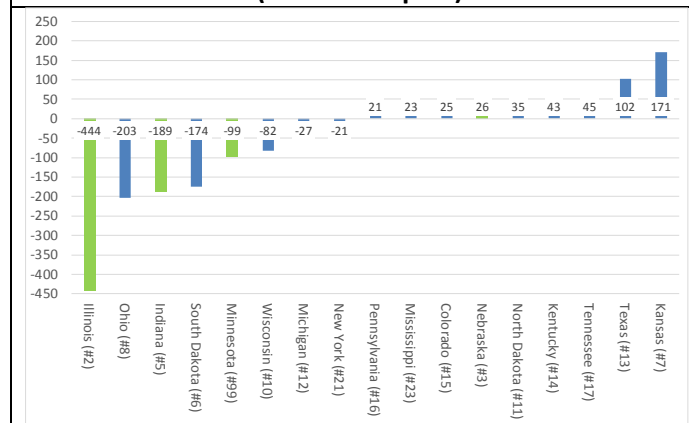
The 2019 U.S. soybean yield is currently pegged at 46.9 BPA, which is a 1 BPA reduction from the September estimate and a 2.7 BPA reduction from the 2018 soybean yield if realized (Table 2).

Table 1. October 2019 Corn Yield and Change from the September Report and from 2018 (Bushels/Acre).					Table 2. October 2019 Soybean Yield and Change from the September Report and from 2018 (Bushels/Acre).						
Corn Yield (Bu/Acre)					Soybean Yield (Bu/Acre)						
	Oct 2019 (F)	Sep 2019 (F)	2018	Change from Sep (bu)	Change from 2018 (bu)		Oct 2019 (F)	Sep 2019 (F)	2018	Change from Sep (bu)	Change from 2018 (bu)
Midwest States					Midwest States						
Illinois	179	180	210	-1	-30	Illinois	51	53	64	-2	-11
Indiana	162	161	189	+1	-28	Indiana	48	49	58	-1	-9
Iowa	192	191	196	+1	-5	Iowa	53	54	56	-1	-2
Kansas	136	136	129	+0	+7	Kansas	43	44	43	-1	+1
Michigan	155	148	153	+7	-5	Michigan	44	42	48	+2	-6
Minnesota	173	171	182	+2	-11	Minnesota	44	45	49	-1	-4
Missouri	155	160	140	-5	+20	Missouri	46	46	45	+0	+2
Nebraska	186	186	192	+0	-6	Nebraska	56	58	58	-2	+0
North Dakota	146	145	153	+1	-8	North Dakota	35	35	35	+0	+0
Ohio	160	158	187	+2	-29	Ohio	48	48	56	+0	-8
South Dakota	154	156	160	-2	-4	South Dakota	43	44	45	-1	-1
Wisconsin	163	163	172	+0	-9	Wisconsin	46	47	48	-1	-1
Southern States					Southern States						
Alabama	151	161	156	-10	+5	Alabama	40	44	40	-4	+4
Arkansas	175	177	181	-2	-4	Arkansas	50	50	51	+0	-1
Georgia	168	166	176	+2	-10	Georgia	28	33	40	-5	-7
Kentucky	178	177	175	+1	+2	Kentucky	49	53	51	-4	+2
Louisiana	166	166	173	+0	-7	Louisiana	48	49	52	-1	-3
Mississippi	174	176	185	-2	-9	Mississippi	51	51	54	+0	-3
North Carolina	110	110	113	+0	-3	North Carolina	37	38	33	-1	+5
Oklahoma	142	140	134	+2	+6	Oklahoma	28	26	28	+2	-2
South Carolina	110	117	127	-7	-10	South Carolina	29	34	29	-5	+5
Tennessee	175	175	168	+0	+7	Tennessee	47	50	46	-3	+5
Texas	142	140	108	+2	+32	Texas	29	29	32	+0	-3
Virginia	148	149	146	-1	+3	Virginia	38	38	42	+0	-4
United States	168.4	168.2	176.4	+0.2	-8	United States	46.9	47.9	50.6	-1.0	-2.7

Source: USDA Crop Production October 2019.

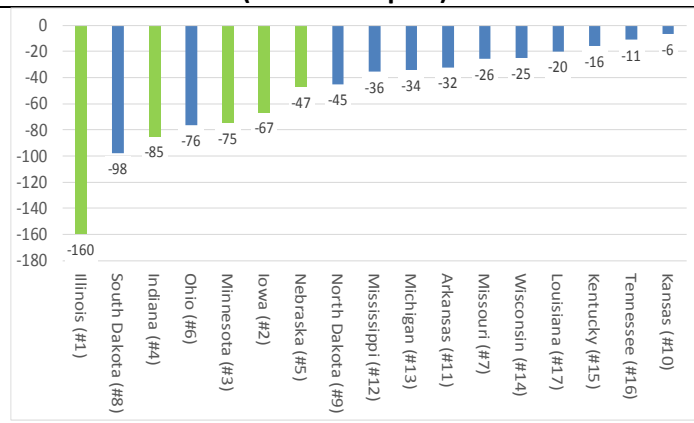
Source: USDA Crop Production October 2019.

Figure 3. Change in Corn Production (Million Bushels) from 2018 to 2019 (October Report).



Source: USDA Crop Production October 2019.

Figure 4. Change in Soybean Production (Million Bushels) from 2018 to 2019 (October Report).



Source: USDA Crop Production October 2019.

USDA projects the 2019 corn crop to be 641 million bushels less than last year's crop. Figure 3 shows the change in production from 2018 for selected states. The top-five corn-producing states are shaded green and are projected to account for a 698 million bushel reduction from 2018. The states east of the Mississippi River (IL, IN, OH, MI, and WI) are currently projected to harvest 944 million fewer bushels this year. South Dakota and Minnesota are also projected to harvest 272 million fewer bushels this fall. The regions that are projected to harvest more bushels this fall as

compared to 2018 are Nebraska and Iowa (+32 million bushels) and Kansas, Missouri, and North Dakota (+212 million bushels). USDA projects the Midwest states to harvest 972 million fewer bushels this fall as compared to 2018. The Southern states will attempt to fill in this deficit but do not have the production capacity to offset the loss in the key production region.

Kentucky's corn crop is currently projected to be about 43 million bushels larger than last year. Because of the production problems in the Eastern Corn Belt states, Kentucky farmers may benefit from a stronger than average basis as the market attempt to meet regional demand unfulfilled by the smaller Midwestern corn crop.

USDA projects the 2019 soybean crop to be 994 million bushels less than the 2018 crop. Figure 4 illustrates the expected change in soybean production from 2018 for selected states. The top-five soybean-producing states are shaded green and are projected to account for 433 million fewer bushels as compared to last year's soybean crop. Unlike corn, there is not a state projected to harvest a larger soybean crop in 2019 due to the acreage reduction and mostly lower yields. The October report projects the Midwest states to harvest about 744 million fewer bushels this fall.

USDA currently projects the 2019 Kentucky soybean crop to be about 15.6 million bushels less than the 2018 crop. As in corn, the soybean basis may strengthen with better than the average appreciation to help meet local demand. The Southeast livestock states that typically pull soybeans from the Eastern Corn Belt region but may source from Kentucky and improve basis.

Topic 2. October WASDE Report: Could Soybeans be Developing a Less Bearish Story?

Analysts surveyed before the October WASDE report was released expected USDA to reduce corn ending stocks from September by 506 million bushels based on an expected reduction to the size of the U.S. corn crop. USDA's reduction to corn ending stocks of 261 million bushels from the September estimate was not viewed as positive for the corn market.

USDA lowered the old-crop corn ending stocks by 331 million bushels due to an increase in feed use and exports. This reduction in 2018-19 ending corn stocks was the driving force in the 351 million bushel reduction in 2019-20 corn supply from the previous month with the other 20 million bushels coming from USDA's reduction in the size of the 2019 corn crop (Table 3).

Table 3. U.S. Corn Supply and Use.					
	2016-17	2017-18	2018-19 Estimated	2019-20 Projected	Change from 18-19
Planted Area (million)	94.0	90.2	89.1	89.9	+0.8
Harvested Area (million)	86.7	82.7	81.7	81.8	+0.1
Yield (bushels/acre)	174.6	176.6	176.4	168.4	-8.0
----- Million Bushels -----					
Beginning Stocks	1,737	2,293	2,140	2,114	-26
Production	15,148	14,609	14,420	13,779	-641
Imports	57	36	28	50	+22
Total Supply	16,942	16,939	16,588	15,944	-644
Feed and Residual	5,472	5,304	5,618	5,300	-318
Food, Seed & Industrial	6,883	7,056	6,791	6,815	+24
Ethanol and by-products	5,432	5,605	5,376	5,400	+24
Exports	2,293	2,438	2,065	1,900	-165
Total Use	14,649	14,799	14,474	14,015	-459
Ending Stocks	2,293	2,140	2,114	1,929	-185
Stocks/Use	15.7%	14.5%	14.6%	13.8%	-0.8%
Days of Stocks	57	53	53	50	-3
U.S. Marketing-Year Average Price (\$/bu)	\$3.36	\$3.36	\$3.61	\$3.80	+\$0.19

Source: October 2019 WASDE - USDA: WAOB.

USDA reduced total corn use by 90 million bushels from the September estimates due to a 150 million bushel reduction in projected exports and a 65 million bushel reduction in industrial use. USDA did increase projected feed use by 125 million bushels, which partially offset the other cuts.

The net effect of the supply and demand updates is a 261 million bushel reduction in ending stocks from the September report for the 2019-20 marketing year. The reduction in ending stocks is projected to support a U.S. marketing year average (MYA) farm price of \$3.80 per bushel, which is a \$0.20/bushel increase from the September report.

Compared to the 2018-19 marketing year, the projected reduction in use by 459 million bushels is muting the impact of the projected supply reduction of 644 million bushels. USDA projects corn exports to be 165 million bushels less than the 2018 exports reflecting U.S. corn not being as competitively priced in the export market.

Analysts also expected soybean ending stocks to be reduced by 130 million bushels from the September estimate to 510 million bushels in soybean stocks. USDA surprised the analysts by a larger than expected cut in production, which flowed through the soybean balance sheet to a larger than expected reduction in 2019-20 soybean stocks.

Table 4. U.S. Soybean Supply and Use.					
	2016-17	2017-18	2018-19 Estimated	2019-20 Projected	Change from 18-19
Planted Area (million)	83.4	90.2	89.2	76.5	-12.7
Harvested Area (million)	82.7	89.5	87.6	75.6	-12.0
Yield (bushels/acre)	52	49.3	50.6	46.9	-3.7
	----- Million Bushels -----				
Beginning Stocks	197	302	438	913	+475
Production	4,296	4,412	4,428	3,550	-878
Imports	<u>22</u>	<u>22</u>	<u>14</u>	<u>20</u>	<u>+6</u>
Total Supply	4,515	4,735	4,880	4,483	-397
Crushings	1,901	2,055	2,092	2,120	+28
Exports	2,174	2,129	1,748	1,775	+27
Seed	105	104	89	96	+7
Residual	<u>34</u>	<u>9</u>	<u>39</u>	<u>32</u>	<u>-7</u>
Total Use	4,213	4,297	3,967	4,023	+56
Ending Stocks	302	438	913	460	-453
Stocks/Use	7.2%	10.2%	23.0%	11.4%	-11.6%
Days of Stocks	26	37	84	42	-42.3
U.S. Marketing-Year Average Price (\$/bu)	\$9.47	\$9.33	\$8.48	\$9.00	+\$0.52

Source: October 2019 WASDE - USDA: WAOB.

USDA reduced old-crop soybean ending stocks by 92 million bushels from September due to adjustments made to the size of the 2018 soybean crop and other adjustments to 2018 soybean use. A beginning stocks level of 913 million bushels combined with the 83 million bushels reduction in the size of the 2019 soybean crop reduced projected soybean supplies by 175 million bushels from the previous report.

USDA increased projected soybean crush by 5 million bushels from the September report. The net effect on stocks is a 180 million bushel reduction from last month's estimates. The reduction in stocks can be thought of as reducing the carryout by about 15-days of inventory from the previous estimate.

USDA currently projects soybean stocks to be 453 million bushels less than the 2018 record carryout of 913 million bushels. The projected 2019-20 soybean carryout at 460 million bushels can be thought of as a 42-day supply in the bins at the end of the marketing year. The 2019 ending stocks are projected to be almost cut in half from the previous year. The significant reduction in soybean stocks is supporting a U.S. MYA farm price of \$9.00/bushel, which is a \$0.52/bushel increase from the previous marketing year (Table 4).

Table 5. U.S. Wheat Supply and Use.					
	2016-17	2017-18	2018-19 Estimated	2019-20 Projected	Change from 18-19
Planted Acres (million)	50.1	46.1	47.8	45.2	-2.6
Harvested Acres (million)	43.9	37.6	39.6	38.1	-1.5
Yield (bushels/acre)	52.7	46.4	47.6	51.6	+4.0
	----- Million Bushels -----				
Beginning Stocks	976	1,181	1,099	1,080	-19
Production	2,309	1,741	1,885	1,962	+77
Imports	<u>118</u>	<u>157</u>	<u>135</u>	<u>120</u>	<u>-15</u>
Total Supply	3,402	3,079	3,119	3,161	+42
Food	949	964	955	960	+5
Seed	61	63	59	68	+9
Feed and Residual	156	51	90	140	+50
Exports	<u>1,055</u>	<u>901</u>	<u>936</u>	<u>950</u>	<u>+14</u>
Total Use	2,222	1,980	2,039	2,118	+79
Ending Stocks	1,181	1,099	1,080	1,043	-37
Stocks/Use	53.2%	55.5%	53.0%	49.2%	-3.7%
Days of Stocks	194	203	193	180	-14
U.S. Marketing-Year Average Price (\$/bu)	\$3.89	\$4.72	\$5.16	\$4.70	-\$0.460

Source: October 2019 WASDE - USDA: WAOB.

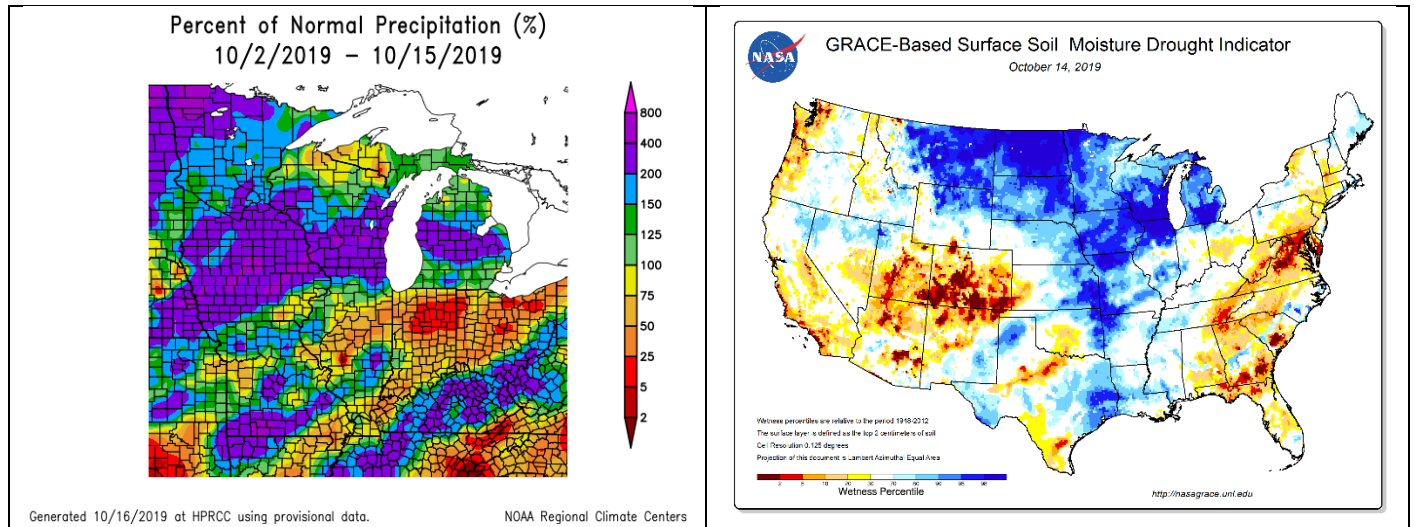
USDA's adjustments to the old-crop wheat balance sheet were minor that increased ending stocks by 8 million bushels from the previous estimate. USDA reduced the size of the 2019 wheat crop by 18 million bushels due to a 300 thousand reduction in projected harvested area. Total wheat supply is projected to be lower from the September report by 26 million bushels due to the smaller crop and smaller than expected imports.

USDA reduced total wheat use by 55 million bushels from last month due to a 25 million bushel reduction in exports and a 30 million bushel reduction in feed use. The impact on ending wheat stocks is a 29 million bushel increase in stocks from the previous month to 1.04 billion bushels.

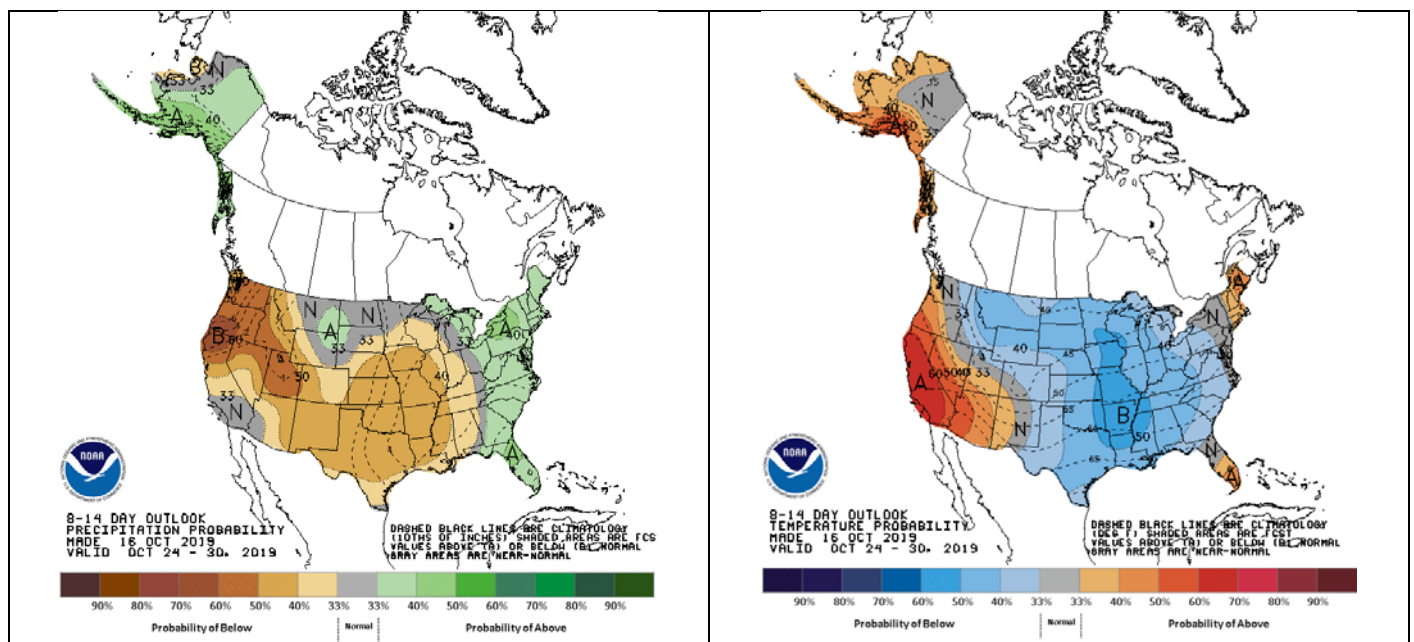
The 2019 wheat balance sheet is very similar to that for 2018, with ending stocks projected to decline by 37 million bushels. With a stocks-to-use ratio of 49.2%, the U.S. MYA wheat price is projected at \$4.70/bushel. If realized, the farm price will be \$0.46/bushel less than the 2018 price (Table 5).

Topic 3. Short-Term Precipitation and Temperature Outlook

The percentage of normal precipitation for October 2 to October 13, 2019, is shown on the map on the left below. Iowa, northern Illinois, Minnesota, the Dakotas, Wisconsin, and Michigan have received an above-average amount of precipitation in the last two weeks. The map below right is a measure of surface soil moisture. The dark blue indicates surface moisture in the 90th percentile or greater in the upper Midwest states. While the corn and soybean crops are slowly being harvested, the wet weather will cause further harvest delays if the weather pattern continues.



Fortunately, the 8 to 14-day precipitation (below left) outlook suggests there is a below-average probability of rain throughout the central third of the country. If the forecast changes, additional precipitation that delays harvest similar to last year may spur the market to add a risk premium to the corn and soybean markets.



The temperature outlook (above right) forecasts below-normal temperatures will continue across most of the United States. The snowstorm that hit the Dakotas and Minnesota the weekend of October 12 has motivated NASS to resurvey the harvested area to gauge the impact of the storm on production. Further storms could reduce both corn and soybean production for this unusual growing season.

Topic 4. 2019 Corn and Soybean Harvest Progress

Table 6 reports the percentage of each state's corn crop harvested compared to last week, last year, and the five-year average progress as of October 13, 2019. The state production rankings are included behind the state name, with the top-five corn-producing states shaded green.

	Oct 13, 2018	Oct 6, 2019	Oct 13, 2019	2014-2018 Average	Change from 5-Year Average	Change from 2018
	%	%	%	%	%	%
COLORADO (15)	28	17	27	20	+7	-1
ILLINOIS (2)	70	13	23	59	-36	-47
INDIANA (5)	49	15	24	41	-17	-25
IOWA (1)	17	3	7	20	-13	-10
KANSAS (7)	62	36	48	64	-16	-14
KENTUCKY (14)	78	76	84	78	+6	+6
MICHIGAN (11)	19	4	7	16	-9	-12
MINNESOTA (4)	18	1	5	19	-14	-13
MISSOURI (10)	79	35	46	69	-23	-33
NEBRASKA (3)	25	12	20	24	-4	-5
NORTH CAROLINA (18)	91	91	93	90	+3	+2
NORTH DAKOTA (12)	11		1	12	-11	-10
OHIO (8)	30	11	16	27	-11	-14
PENNSYLVANIA (16)	25	36	38	31	+7	+13
SOUTH DAKOTA (6)	17	2	5	19	-14	-12
TENNESSEE (17)	87	88	92	89	+3	+5
TEXAS (13)	75	74	77	75	+2	+2
WISCONSIN (9)	18	1	3	14	-11	-15
18-States	38	15	22	36	-14	-16

As of October 13, 2019, 22% of the U.S. corn crop was harvested, which is 14% behind the five-year average progress and 16% behind last year's progress (Table 6). The top-five corn states are all behind the long-term average harvest progress. Illinois, Indiana, Iowa, Minnesota, and Nebraska are 36%, 17%, 13%, 14%, and 4% behind their respective five-year average. In contrast, Kentucky and Tennessee are 6% and 3% ahead of their respective five-year average harvest progress.

Source: USDA *Crop Progress* Report, October 13, 2019.

	Oct 13, 2018	Oct 6, 2019	Oct 13, 2019	2014-2018 Average	Change from 5-Year Average	Change from 2018
	%	%	%	%	%	%
Arkansas (#11)	42	38	51	60	-9	+9
Illinois (#1)	59	11	27	55	-28	-32
Indiana (#4)	49	14	30	47	-17	-19
Iowa (#2)	19	5	17	43	-26	-2
Kansas (#10)	16	5	13	25	-12	-3
Kentucky (#15)	38	31	45	34	+11	+7
Louisiana (#17)	85	80	89	90	-1	+4
Michigan (#13)	22	8	18	36	-18	-4
Minnesota (#3)	38	8	19	62	-43	-19
Mississippi (#12)	71	58	75	78	-3	+4
Missouri (#7)	24	6	15	27	-12	-9
Nebraska (#5)	38	14	28	47	-19	-10
North Carolina (#18)	16	17	25	15	+10	+9
North Dakota (#9)	37	8	16	67	-51	-21
Ohio (#6)	41	18	36	48	-12	-5
South Dakota (#8)	29	5	13	58	-45	-16
Tennessee (#16)	44	39	50	39	+11	+6
Wisconsin (#14)	20	3	15	37	-22	-5
18-States	37	14	26	49	-23	-11

Table 7 provides an update of the 2019 soybean harvest progress. As of October 13, 26% of the U.S. soybean crop is harvested, which is 23% behind the 5-year average progress for this date and 11% behind last year's progress. The top-five soybean-producing states, shaded green, are running 28% (Illinois), 17% (Indiana), 26% (Iowa), 43% (Minnesota), and 19% (Nebraska) behind their respective five-year average progress. Michigan, Ohio, and Wisconsin are 18%, 12%, and 22%, respectively, behind their five-year average harvest progress.

Source: USDA *Crop Progress* Report, October 13, 2019.

Topic 5. 2019 Corn, Soybean and Wheat Basis vs. Previous Years

Figure 5, Figure 6, and Figure 7 show the monthly average corn, soybean, and wheat spot basis, respectively, for twelve Western Kentucky markets. For each figure, the red line is the basis for the 2016 crop. The green line is the 2017 basis, while the black line represents the 2018 basis. The blue triangles represent the 2019 basis.

The corn basis is \$0.14/bushel under the December corn contract, which is a \$0.10/bushel increase from the 2018 basis in October. Last year, the corn basis appreciated from October to February by \$0.17/bushel, which was \$0.12/bushel less than the amount of appreciation in basis for the 2017 corn crop from harvest to February (Figure 5).

The average soybean basis, as of October 11, 2019, was -\$0.47/bushel under the November 2019 soybean contract. The basis is \$0.11 per bushel narrower than the 2018 basis in October, and \$0.05 per bushel narrower than

the 2017 basis (Figure 6). Last year, the basis appreciated \$0.18/bushel from October to February, but the 2017 crop's basis appreciated \$0.24/bushel from harvest to February.

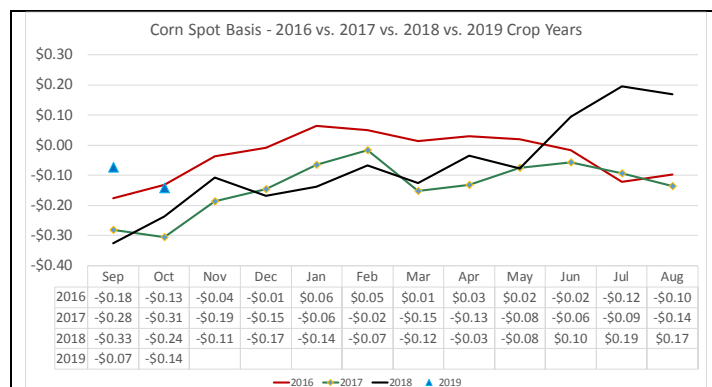


Figure 5. Western Kentucky Corn Spot Market Basis Appreciation from September to August for the 2016 to 2019 Crop Years.
Basis Calculated on October 11, 2019

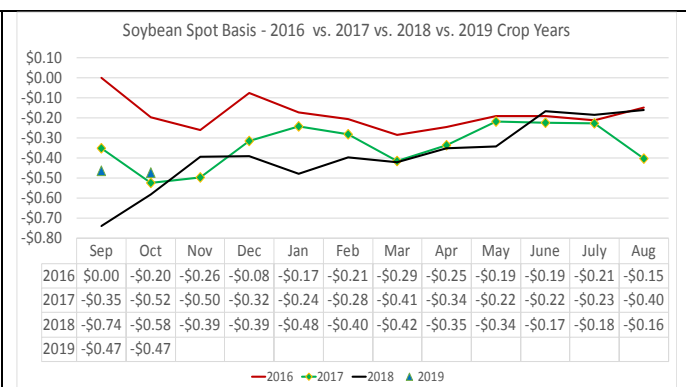


Figure 6. Western Kentucky Soybean Spot Market Basis Appreciation from September to August for the 2016 to 2019 Crop Years.
Basis Calculated on October 11, 2019

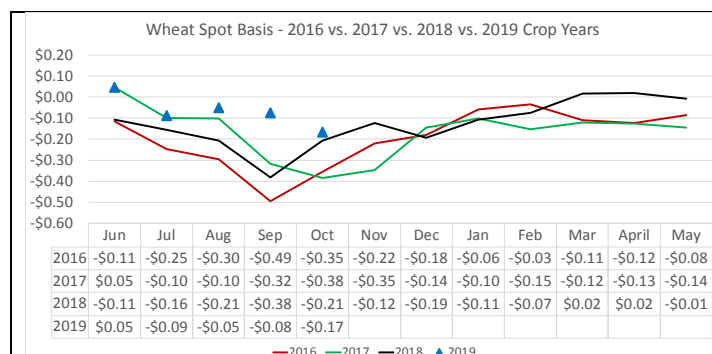


Figure 7. Western Kentucky Wheat Spot Market Basis Appreciation from June to May for the 2016 to 2019 Crop Years.
Basis Calculated on October 11, 2019

The average wheat spot basis has been strengthening since January 2019. The average basis for the 2018 crop (black line) has been narrower than the 2017 crop since March 2018 and is much stronger than the basis for the 2016 wheat crop.

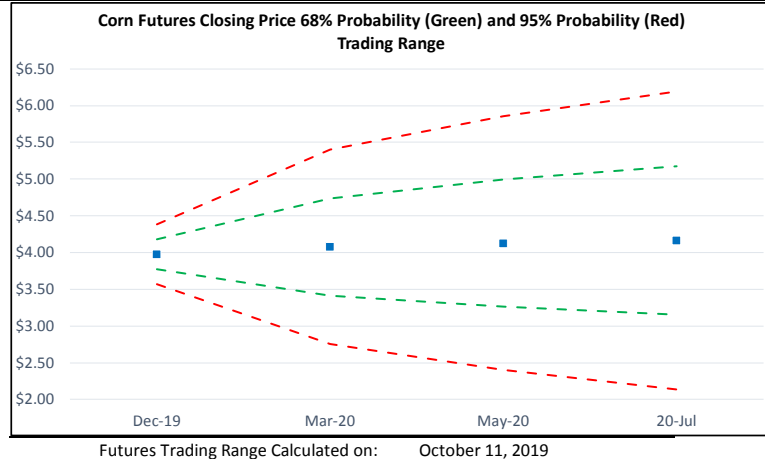
The 2019 wheat basis is -\$0.17/bushel below the December futures contract. Seasonality suggests that the basis will continue to widen into the fall. Since the basis is stronger than previous years, the extent of basis depreciation this year might be limited. The 2019-wheat basis is still narrower than the basis for the 2018, 2017, and 2016 crops in October.

Topic 6. Projected Corn, Soybean, and Wheat Futures Trading Ranges to July 2020

Figures 8–10 provide the projected futures price trading range by futures contract month, based on the contracts' volatility for the previous 21-day period for corn, soybeans, and wheat. The green lines represent the range that describes the 68% probability of the projected trading range with the red line representing a 95% likelihood of the expected trading range. Notice how these projections fan out for the contracts that will expire later in 2020. That is because there is more time until the contract's expiration; thus, there is a wider potential trading range for these deferred futures contracts.

Figure 8 provides the probabilistic trading range for the corn futures contracts from December 2019 to July 2020. There is a 68% probability that the December 2019 corn contract will trade between \$3.77 and \$4.18 and a 95% probability that the December 2019 corn contract will trade between \$3.57 and \$4.39. Managers considering storing corn into 2020 should monitor the March 2020 contract, which has a 68% probability of trading between \$3.42 and \$4.74 per bushel. The July 2020 corn contract has a 68% probability of trading between \$3.15 and \$5.18 per bushel, which reflects the volatility in the corn futures contracts for the deferred months (Figure 8).

Figure 8. Corn Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



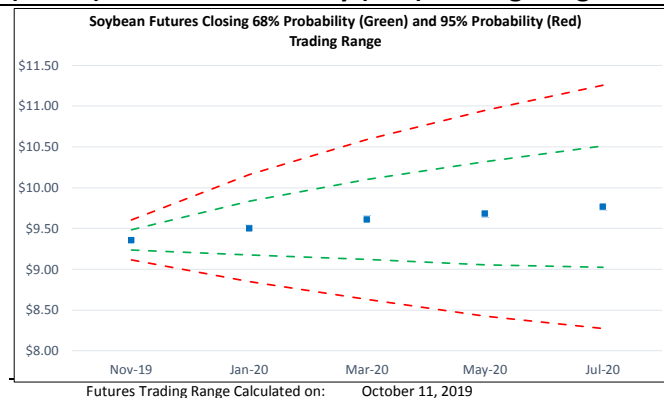
Futures Trading Range Calculated on: October 11, 2019

Trading range calculated on October 11, 2019, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on October 11, 2019, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Figure 9 provides the probabilistic trading range for soybean futures contracts from November 2019 to July 2020. The November 2019 futures contract has a 68% probability of trading between \$9.24 and \$9.48 per bushel (Figure 9). Managers planning to store soybeans into the new-year should monitor the March 2020 soybean contract. The March 2020 contract has a 68% probability of trading between \$9.18 and \$9.83 per bushel. The July 2020 soybean contract has a 68% probability of trading between \$9.02 and \$10.51 per bushel (Figure 9).

Figure 10 provides the probabilistic trading range for the wheat futures contract from December 2019 to July 2020 contracts. The December 2019 wheat contract has a 68% chance of trading between \$4.99 and \$5.17/bushel, which should be monitored for managing 2019 wheat that is planned to be stored. Similarly, the March 2020 contract has a 68% chance of trading between \$4.72 and \$5.56/bushel. The July 2020 Futures contract has a 68% probability of trading between \$4.54 and \$5.90 per bushel and should be considered as a tool to manage price risk for producers planning on seeding wheat for 2020 (Figure 10).

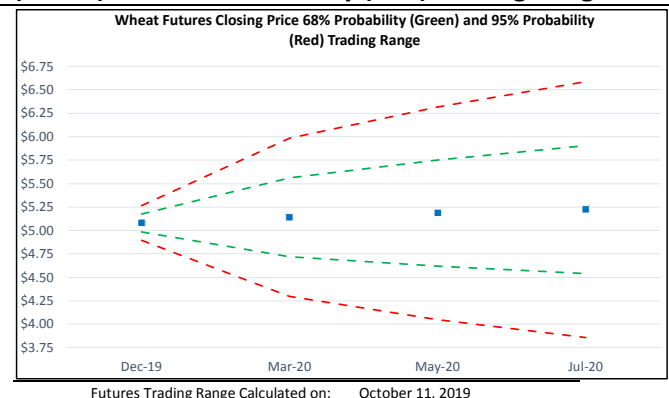
Figure 9. Soybean Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



Futures Trading Range Calculated on: October 11, 2019

Trading range calculated on October 11, 2019, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on October 11, 2019, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Figure 10. Wheat Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



Futures Trading Range Calculated on: October 11, 2019

Trading range calculated on October 11, 2019, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on October 11, 2019, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Topic 7. Pre-Harvest 2020 Corn, Soybean, Wheat and Double-Crop Soybean Risk Management Opportunities

Tables 8-11 analyze the effectiveness of using hedging with futures and put options in protecting revenue that covers total input costs, cash rent, overhead, and family living for corn, soybeans, and double-crop soybeans in 2020. Managers should monitor the futures market for opportunities because sometimes the best pricing opportunities occur several weeks before planting. These examples are provided to help raise awareness of risk management opportunities available now for managers planning their 2020 production. I am using the same costs as 2019 because I do not anticipate input costs or rental rates to decline significantly from 2019.

Table 8 presents risk management alternatives for Western Kentucky corn production for 2020. Several yield projections are provided to show what yield is needed to find profitable pricing opportunities. Three risk management alternatives are compared. The first marketing alternative is to hedge with commodity futures, or HTA contracts, that would lock in an expected cash price at \$3.83/bushel assuming a -\$0.25/bushel harvest-time basis. The second alternative is to lock in a cash price through a forward contract at \$3.88/bushel. The third alternative is to establish a price floor at \$3.58/bushel by buying a put option with a \$4.10 strike price that costs \$0.267 (Table 8).

Yield	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>	<u>200</u>
TVC+Rent+Overhead+Family Living (\$/acre)	\$699	\$699	\$699	\$699	\$699	\$699
TVC+Rent+Overhead+Family Living (\$/bu)	\$4.66	\$4.37	\$4.11	\$3.88	\$3.68	\$3.50
Hedge @ \$4.08+ -\$0.25 basis = \$3.83	-\$0.83	-\$0.53	-\$0.28	-\$0.05	+\$0.16	+\$0.34
Forward Contract at \$3.88	-\$0.78	-\$0.49	-\$0.23	-\$0.00	+\$0.20	+\$0.39
Put: \$4.10 strike @ \$0.267 = \$3.58 floor	-\$1.08	-\$0.79	-\$0.53	-\$0.30	-\$0.10	+\$0.09
Strategies Evaluated on:	October 16, 2019					

Table 8 demonstrates that risk management opportunities exist to lock in a profit above total economic costs and family living if yields exceed 180-bushels. If the 2019 corn crop is reduced in future reports and stocks decline, the December 2020 corn futures contract may increase to a price level that provides profitable risk management opportunities for lower yields.

Table 9 illustrates the risk management potential for full-season soybeans in 2020. Current prices are providing an opportunity to lock in a return over total economic costs plus family living of \$0.77/bushel for yields of 60 bushels/acre or greater. The November 2020 contract has strengthened \$0.48/bushel from September 6 to October 16, 2019, due to USDA reduction in projected ending stocks for the 2019 soybean crop. Further reductions in the size of the 2019 soybean crop, coupled with the prospects of stronger use, would provide fundamental support for further increases in the November 2020 contract.

Yield	<u>45</u>	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>
TVC+Rent+Overhead+Family Living (\$/acre)	\$517	\$517	\$517	\$517	\$517
TVC+Rent+Overhead+Family Living (\$/bu)	\$11.49	\$10.34	\$9.40	\$8.62	\$7.95
Hedge @ \$9.70 + -\$0.50 basis = \$9.20	-\$2.29	-\$1.14	-\$0.20	+\$0.58	+\$1.25
Forward Contract at \$9.39	-\$2.10	-\$0.95	-\$0.01	+\$0.77	+\$1.44
Put: \$9.80 strike @ \$0.614 = \$8.69 floor	-\$2.80	-\$1.65	-\$0.71	+\$0.07	+\$0.73
Strategies Evaluated on:	October 16, 2019				

Yield	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>
TVC+50% Rent+Overhead+Family Living (\$/acre)	\$476	\$476	\$476	\$476	\$476
TVC+50% Rent+Overhead+Family Living (\$/bu)	\$5.95	\$5.60	\$5.29	\$5.01	\$4.76
Hedge @ \$5.22 - \$0.15 basis = \$5.07	-\$0.88	-\$0.53	-\$0.22	+\$0.06	+\$0.31
Forward Contract at \$5.16	-\$0.79	-\$0.44	-\$0.13	+\$0.15	+\$0.40
Put: \$5.00 strike @ \$0.217 = \$4.63 floor	-\$1.32	-\$0.97	-\$0.66	-\$0.38	-\$0.13
Strategies Evaluated on:	October 16, 2019				

Table 10 illustrates the risk management potential for wheat in 2020. The costs in Table 10 assume that rent is split evenly between wheat and double-crop soybeans. Current prices are providing an opportunity to lock in a return over total economic costs plus family living for yields of 95 bushels/acre or larger. Some managers have been able to harvest yields approaching 100 bushels, which suggests an opportunity may exist to manage risk by using futures contracts or cash forward contracts.

Table 11. Risk Management Alternatives for 2020 Western Kentucky Double-Crop Soybeans for Various Yield Objectives.

Yield	35	40	45	50	55
TVC+Rent+Overhead+Family Living (\$/acre)	\$383	\$383	\$383	\$383	\$383
TVC+Rent+Overhead+Family Living (\$/bu)	\$10.93	\$9.56	\$8.50	\$7.65	\$6.95
Hedge @ \$9.70+ -\$0.50 basis = \$9.20	-\$1.73	-\$0.36	+\$0.70	+\$1.55	+\$2.25
Forward Contract at \$9.39	-\$1.54	-\$0.17	+\$0.89	+\$1.74	+\$2.44
Put: \$9.80 strike @\$0.614 = \$8.69 floor	-\$2.24	-\$0.88	+\$0.19	+\$1.04	+\$1.73
Strategies Evaluated on:	October 16, 2019				

The market is providing an opportunity to protect double-crop soybean risk for those that typically harvest 45-bushel double-crop soybeans or better. The November 2020 soybean futures could rally further if the size of the 2019 crop declines and if there is some resolution to the trade uncertainty with China (Table 11). Similarly, the market has rallied over rumors of positive trade negotiations only to find the rumors were not true, and the market may slip lower. Managers should monitor pricing opportunities throughout the fall to reduce risk for double-crop soybeans.

Topic 8. 2019 Projected Return to Storage for Corn and Soybeans

Table 12 provides projected returns to on-farm and commercial corn storage from harvest to the following June. The return to on-farm storage is calculated as the deferred price less the harvest price less the monthly opportunity cost less the on-farm storage fee. The harvest price for corn is projected at \$3.72 per bushel. The annual interest rate is 5%, which gives a monthly interest cost of \$0.016/bushel for corn. The corn futures complex closing prices on October 16, 2019, and the five-year average monthly spot basis are used to forecast the most-likely deferred cash prices. The maximum monthly basis is the optimistic basis, and the minimum basis is the pessimistic basis. On-farm storage is charged \$0.127 per bushel, and the return to on-farm storage is the return to the farm's drying and storage system.

The projected return to on-farm corn storage, assuming the most likely basis, is +\$0.18/bushel in February 2020. The combination of average basis appreciation and carry in the futures market provides even larger projected returns to on-farm storage into spring 2020 (Table 12).

Table 12. Projected Return to Storage for On-Farm and Commercial for Corn.

Harvest Cash Price	\$3.72								
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
On-Farm Storage Cost (\$/bu)	\$0.14	\$0.16	\$0.17	\$0.19	\$0.20	\$0.22	\$0.24	\$0.25	
Commercial Storage (\$/bu)	\$0.22	\$0.23	\$0.25	\$0.31	\$0.38	\$0.44	\$0.51	\$0.57	
Most Likely Spot Price Forecast (\$/bu)	\$3.90	\$4.00	\$4.06	\$4.10	\$4.11	\$4.14	\$4.18	\$4.21	
Conservative Spot Forecast (\$/bu)	\$3.79	\$3.91	\$3.94	\$4.01	\$3.98	\$4.00	\$4.09	\$4.11	
Optimistic Spot Forecast (\$/bu)	\$4.04	\$4.14	\$4.17	\$4.15	\$4.22	\$4.25	\$4.32	\$4.31	
Returns to On-Farm Storage	+\$0.03	+\$0.12	+\$0.17	+\$0.18	+\$0.18	+\$0.20	+\$0.22	+\$0.24	
Conservative	-\$0.07	+\$0.03	+\$0.04	+\$0.10	+\$0.05	+\$0.05	+\$0.13	+\$0.13	
Optimistic	+\$0.18	+\$0.26	+\$0.28	+\$0.24	+\$0.29	+\$0.31	+\$0.37	+\$0.34	
Returns to Commercial Storage	-\$0.04	+\$0.05	+\$0.09	+\$0.06	+\$0.01	-\$0.02	-\$0.05	-\$0.08	
Conservative	-\$0.15	-\$0.04	-\$0.03	-\$0.02	-\$0.12	-\$0.17	-\$0.14	-\$0.19	
Optimistic	+\$0.10	+\$0.19	+\$0.20	+\$0.12	+\$0.12	+\$0.09	+\$0.09	+\$0.01	

Projected on October 16, 2019.

Table 13. Projected Return to Storage for On-Farm and Commercial for Soybeans.

Harvest Cash Price	\$8.80								
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
On-Farm Storage Cost (\$/bu)	\$0.16	\$0.20	\$0.24	\$0.27	\$0.31	\$0.34	\$0.38	\$0.42	
Commercial Storage (\$/bu)	\$0.34	\$0.37	\$0.41	\$0.49	\$0.53	\$0.57	\$0.60	\$0.64	
Most Likely Spot Price Forecast (\$/bu)	\$9.07	\$9.18	\$9.27	\$9.27	\$9.28	\$9.31	\$9.43	\$9.48	
Conservative Spot Forecast (\$/bu)	\$8.78	\$8.89	\$8.91	\$8.99	\$9.06	\$9.13	\$9.22	\$9.34	
Optimistic Spot Forecast (\$/bu)	\$9.37	\$9.44	\$9.57	\$9.60	\$9.64	\$9.63	\$9.81	\$9.80	
Returns to On-Farm Storage	+\$0.10	+\$0.18	+\$0.23	+\$0.19	+\$0.17	+\$0.16	+\$0.24	+\$0.27	
Conservative	-\$0.19	-\$0.12	-\$0.13	-\$0.09	-\$0.05	-\$0.02	+\$0.04	+\$0.12	
Optimistic	+\$0.40	+\$0.44	+\$0.53	+\$0.52	+\$0.52	+\$0.49	+\$0.62	+\$0.59	
Returns to Commercial Storage	-\$0.07	+\$0.00	+\$0.06	-\$0.03	-\$0.06	-\$0.06	+\$0.02	+\$0.04	
Conservative	-\$0.36	-\$0.29	-\$0.30	-\$0.31	-\$0.27	-\$0.24	-\$0.18	-\$0.10	
Optimistic	+\$0.23	+\$0.26	+\$0.36	+\$0.30	+\$0.30	+\$0.26	+\$0.40	+\$0.36	

Projected on October 16, 2019.

The return to commercial corn storage is the deferred price less the harvest price, interest costs, and commercial storage fees. Commercial storage is assumed at \$0.20/bushel from harvest to January 31, with an additional \$0.05/bushel per month starting in February. The projected commercial storage return is +\$0.09/bushel in

January, assuming the most-likely basis and the current carry in the futures market. Commercial storage returns decline when the additional monthly charge begins in January.

If the 2019 corn crop is reduced further, basis appreciation may be greater than that modeled by the most likely basis. The optimistic return to on-farm and commercial storage for corn to January 2020 is \$0.28/bushel and \$0.20/bushel, respectively (Table 12).

The projected on-farm and commercial storage returns for soybeans are presented in Table 13. The harvest price for soybeans is projected at \$8.80 per bushel, with a monthly interest cost of \$0.036/bushel. The five-year average monthly spot basis is used to forecast the most-likely deferred cash prices. The maximum monthly basis is the optimistic basis, and the minimum basis is the pessimistic basis. On-farm storage is charged \$0.127 per bushel, and the return to on-farm storage is the return to the farm's storage system.

Assuming the most likely basis and the current carry in the soybean futures market, the return to on-farm storage is +\$0.23/bushel in January 2020 (Table 13). Soybean basis has been wider than average for the 2017 and 2018 crops, so the conservative basis suggests a return to on-farm storage of -\$0.13/bushel in January. The optimistic returns might be too optimistic given recent basis appreciation and market fundamentals.

The return to commercial soybean storage is the deferred price less the harvest price, interest costs, and commercial storage fees. Commercial storage is assumed at \$0.30/bushel from harvest to January 31, with an additional \$0.05/bushel per month starting in February. The projections in Table 13 suggest a +\$0.06/bushel return to commercial storage for the most likely basis assumption, but a -\$0.30/bushel return for the conservative basis (Table 13).

Topic 9. Post-Harvest 2019 Corn and Soybean Risk Management Opportunities

Managers storing corn and soybeans to February 2020 may want to consider if the futures or options markets are providing opportunities to protect prices at profitable levels.

Table 14 compares the potential of using hedging, forward contracts, or put options to lock in a return over total economic costs, family living, and on-farm storage. Those farms that produced 190-bushel corn or more in 2019 may be able to lock-in a profit above total budgeted costs. Farms with lower expected yields do not have profitable risk management opportunities at current prices to cover all budgeted costs (Table 14).

Storage Hedge: Feb 2020	Corn			
	170	180	190	200
Yield	<u>170</u>	<u>180</u>	<u>190</u>	<u>200</u>
TVC+Rent+Overhead+Family Living (\$/acre)	\$699	\$699	\$699	\$699
TVC+Rent+Overhead+Family Living (\$/bu)	\$4.11	\$3.88	\$3.68	\$3.50
TVC+Rent+OH+Family+\$0.21 storage (\$/bu)	\$4.32	\$4.09	\$3.89	\$3.71
Hedge @ \$4.04+\$0.05 basis = \$4.09	-\$0.24	-\$0.01	+\$0.20	+\$0.38
Forward Contract at \$4.05	-\$0.27	-\$0.04	+\$0.16	+\$0.35
Put: \$4.00 strike @\$0.133 = \$3.92 floor	-\$0.40	-\$0.18	+\$0.03	+\$0.21
Strategies Evaluated on:	October 16, 2019			

Storage Hedge: Feb 2020	Soybeans				Table 15 presents risk management alternatives for storing soybeans from harvest to February 2020. The example varies the harvested yield to illustrate how the break-even price over inputs, rent, overhead, family living, and storage changes with yield.
	40	50	60	70	
Yield	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	
TVC+Rent+Overhead+Family Living (\$/acre)	\$517	\$517	\$517	\$517	
TVC+Rent+Overhead+Family Living (\$/bu)	\$12.93	\$10.34	\$8.62	\$7.39	
TVC+Rent+OH+Family+\$0.27 storage (\$/bu)	\$13.20	\$10.66	\$8.94	\$7.71	
Hedge @ \$9.55 + -\$0.30 basis = \$9.25	-\$3.95	-\$1.42	+\$0.31	+\$1.54	
Forward Contract at \$9.35	-\$3.85	-\$1.31	+\$0.41	+\$1.64	
Put: \$9.60 strike @\$0.386 = \$8.91 floor	-\$4.28	-\$1.75	-\$0.02	+\$1.21	
Strategies Evaluated on:	October 16, 2019				

The example illustrates that a yield of 60-bushels is needed to lock in a profit using the futures market or forward contracts. Table 15 also illustrates that farmers harvesting lower yields will be challenged to find profitability at current prices and the assumed costs.

Topic 10. Potential 2019-20 Corn and Soybean Balance Sheets and Price Potential

In a typical year, the October *Crop Production* report provides clearer guidance on the size of the corn and soybean crops as both crops are at maturity and are being harvested when survey measurements are recorded. With a slower than average maturity and harvest, USDA is still relying on farmer surveys and statistical models to gauge the size of the crops. A typical question that farmers have in October is, “How may the October production estimates change from now to the final estimate in January?”

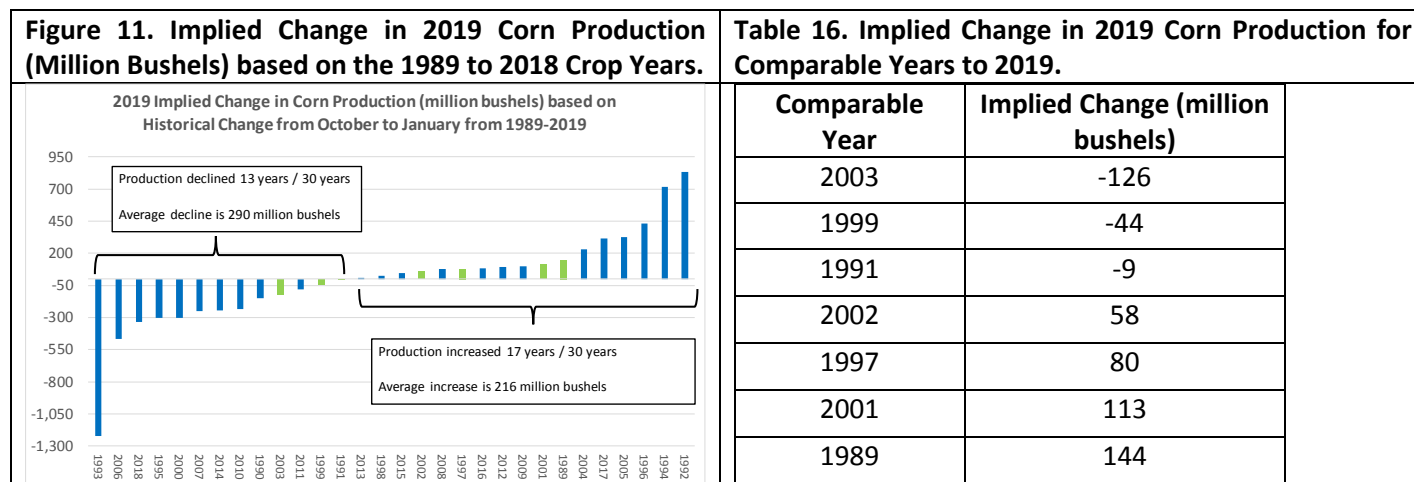


Figure 11 uses the monthly USDA *Crop Production* report data for the 1989 to 2018 crop years to demonstrate how the production estimates vary from October to January for each of the last thirty years. The implied 2019 change in the size of the corn crop is the October estimate multiplied by each year’s percentage change from October to January. The estimated size of the corn crop was lowered 13 times out of the last 30 years, with the largest reduction for the 1993 corn crop (which is the year Iowa experienced statewide flooding). The average reduction in the size of the corn crop for those 13 years is 290 million bushels. In contrast, USDA increased the size of the corn crop 17 out of 30 years, with an average increase of 216 million bushels (Figure 11).

Table 16 identifies years where USDA reduced the size of the corn crop in the September report and then increases the estimated production in the October report similar to 2019. These “comparable years” are the green colored bars in Figure 11, so managers can compare the comparable years to the other years analyzed. For the seven years, the size of the crop shrank 3 years by an implied range of 9 to 126 million bushels. The four years where USDA increased the estimated corn crop, the implied increase in the corn crop ranged from 58 to 144 million bushels (Table 16).

Table 17. Potential 2019 Corn Balance Sheet and Price Potential for Changes to 2019 Corn Production.					
	Oct. WASDE	Potential change in 2019 Corn Production (million bushels)			
		-300 mil bu.	-150 mil bu.	+150 mil bu.	+300 mil bu.
Beginning Stocs	2,114				
Imports	50				
Production	13,779	13,479	13,629	13,929	14,079
Total Supply	15,943	15,643	15,793	16,093	16,243
Total Domestic	12,115				
Exports	1,900				
Total Use	14,015	14,015	14,015	14,015	14,015
Ending Stocks	1,928	1,628	1,778	2,078	2,228
Stocks/Use	13.8%	11.6%	12.7%	14.8%	15.9%
Days Stocks	50	42	46	54	58
U.S. MYA Price	\$3.80	\$4.00	\$3.90	\$3.70	\$3.63

Table 17 provides a sensitivity analysis on how changes to the size of the 2019 corn crop could affect ending stocks and the U.S. MYA price. The 2019 corn crop is assumed to decrease and increase by 150 and 300 million bushels. The other items in the supply and demand table are assumed to be the same as in the October WASDE.

If the 2019 corn crop is reduced by 300 million bushels, the stocks-to-use ratio would be 11.6%, and the U.S. MYA price would increase to \$4.00/bushel. A greater reduction in production is needed to support a higher U.S. MYA price.

A 150 million bushel reduction in the corn crop would reduce stocks to a level that would potentially support a \$0.10/bushel increase in the MYA price. Alternatively, a 150 million and 300 million increase in production would push stocks above 2 billion bushels and support a U.S. MYA price of \$3.70 and \$3.63/bushel, respectively (Table 17).

Figure 12. Implied Change in 2019 Soybean Production (Million Bushels) based on the 1989 to 2018 Crop Years.

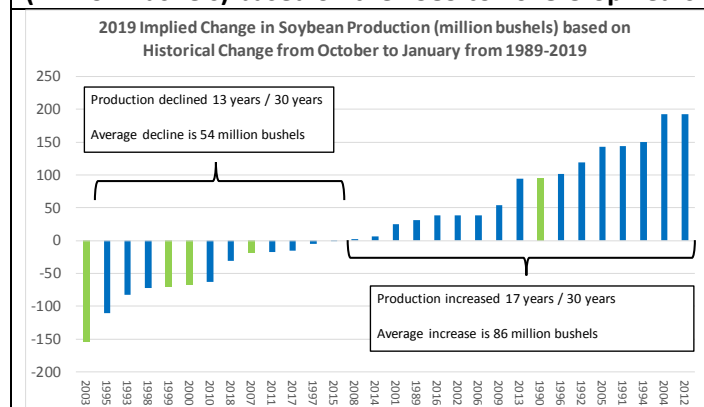


Table 18. Implied Change in 2019 Soybean Production for Comparable Years to 2019.

Comparable Year	Implied Change (million bushels)
2003	-154
1999	-70
2000	-67
2007	-20
1990	95

Figure 12 shows the implied change in the 2019 soybean crop based on USDA’s adjustments to the estimated crop for the 1989 to 2018 crop years. USDA revised the soybean crop lower from the October to January reports 13 of the last 30 years with an average reduction of 54 million bushels. Alternately, USDA revised the soybean crop higher in 17 of the 30 years, with an average increase of 86 million bushels.

Table 18 lists the years comparable to 2019, which reduced the estimated soybean crop in both the September and the October reports similar to 2019. For four of the five “comparable years,” the implied adjustment from October to January ranges from 20 million to 154 million bushels lower. For the one year where the production estimate increased, the implied adjustment is a 95 million bushel increase (Table 18).

The potential 2019 soybean balance sheet and potential U.S. MYA price for a 50 million and 100 million bushel decrease and a 100 and 150 million bushel increase are shown in Table 19. The analysis in Table 19 assumes the same beginning stocks, imports, and demand estimates from the October WASDE.

Table 19. Potential 2019 Soybean Balance Sheet and Price Potential for Change to 2019 Soybean Production.

	Oct. WASDE	Potential change in 2019 Soybean Production (million bushels)			
		-100 mil bu.	-50 mil bu.	+100 mil bu.	+150 mil bu.
Beginning Stocs	913				
Imports	20				
Production	3,550	3,450	3,500	3,650	3,700
Total Supply	4,483	4,383	4,433	4,583	4,633
Total Domestic	2,248				
Exports	1,775				
Total Use	4,023	4,023	4,023	4,023	4,023
Ending Stocks	460	360	410	560	610
Stocks/Use	11.4%	8.9%	10.2%	13.9%	15.2%
Days Stocks	42	33	37	51	55
U.S. MYA Price	\$9.00	\$9.65	\$9.30	\$8.45	\$8.25

Table 19 demonstrates that the soybean U.S. MYA price could increase to \$9.30/bushel if the 2019 soybean crop shrinks by 50 million bushels. If the 2019 crop is reduced by 100 million bushels and demand does not change lower, then the stocks-to-use ratio would decrease to 8.9%, and the U.S. MYA price would increase to \$9.65/bushel.

Of course, an increase in the soybean crop without increased demand would increase stocks from the October estimate. A 100 and 150 million bushel increase implies a U.S. MYA price of \$8.45 and \$8.25 per bushel, respectively (Table 19).

The sensitivity analyses in Table 16 demonstrate that significant adjustments in the size of the corn crop do not typically occur from the October estimates to the final January estimate. A reduction above 300 million bushels is required to move the U.S. MYA price above the \$4.00/bushel level, but that is a low probability event.

The soybean market is very sensitive to a decrease or increase in the size of the soybean crop. While unlikely, a 150 million bushel increase in the size of the 2019 soybean crop would potentially increase the stocks-to-use ratio to 15.2% and support a U.S. MYA price of \$8.25/bushel (Table 19). Until the trade disruptions are resolved, the soybean market is at the mercy of production estimates to support a higher U.S. MYA price.


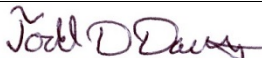

Topic 11. Upcoming Grain Outlook and Risk Management Webinars

A series of one-hour market outlook and risk management webinars will be held monthly to update managers on the USDA reports and risk management opportunities for corn, soybean, and wheat. The webinars will be delivered via Zoom. Contact your local Extension agent for login information for each month's webinar. The dates and start times are listed below.

- October 28, 2019 — 8:30 am Central
- November 14, 2019 — 8:30 am Central
- December 17, 2019 — 8:30 am Central

Topic 12. How Do I Get on the Email Distribution List to Receive this Newsletter?

The *Crops Marketing and Management Update* is published monthly, usually after the release of the USDA: WASDE report. You can find this issue and past issue on the UK Agricultural Economics Department's website at <http://www.uky.edu/Ag/AgEcon/extcmmu.php>. Email todd.davis@uky.edu to receive the newsletter by email.

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