

Crops Marketing and Management Update

Grains and Forage Center of Excellence

Dr. Todd D. Davis

Assistant Extension Professor – Department of Agricultural Economics

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Topic 1. September *Crop Production* Report: USDA Trims Corn and Soybean Yields

Analysts were not expecting the September *Crop Production* report to provide any major changes to the size of the 2019 corn and soybean crop. Because both crops were planted much later than average, the USDA is relying on farmer surveys, satellite images, and statistical models to estimate the 2019 corn and soybean yields.

Analysts surveyed before the release expected the 2019 corn yield to be reduced by 2.8 bushels/acre (BPA) from the August report. USDA did reduce the 2019 corn yield but not as much as expected. The 2019 corn yield is currently estimated at 168.2 BPA, which is a 1.3-bushel reduction from August and would be 8.2 BPA below the 2018 U.S. corn yield.

Table 1 reports the September 2019 corn yield for Midwestern and Southern states surveyed by NASS with a comparison of the September estimates to last month and last year. USDA mostly lowered the estimated corn yield in the Midwestern states except for a 1 BPA increase in Kansas from the August estimates. Similarly, the 2019 corn yield is estimated to be -28, -29, and -30 BPA from last year in Indiana, Ohio, and Illinois, respectively. The other Midwest corn states are also estimated to have yields that are 4 to 11 BPA lower than last year. The exceptions are Kansas and

Missouri, which are currently estimated to have corn yields that are 7 and 20 BPA, respectively, higher than last year (Table 1).

The 2019 Southern corn yields are estimated to be +2 BPA (Kentucky), +3 BPA (Virginia), +5 BPA (Alabama), +6 BPA (Oklahoma), +7 BPA (Tennessee), and +32 BPA (Texas) from last year. The remaining Southern states are all currently estimated to have lower yields than last year with the difference ranging from -3 BPA in North Carolina to -10 BPA in South Carolina and Georgia. Table 1 demonstrates the greater yield variability and yield risk in the Southern region as compared to the Midwestern states.

Table 1. September 2019 Corn Yield and Change from the August Report and from 2018 (Bushels/Acre).						Table 2. September 2019 Soybean Yield and Change from the August Report and from 2018 (Bushels/Acre).					
Corn Yield (Bu/Acres)						Soybean Yield (Bu/Acres)					
	Sep 2019 (F)	Aug 2019 (F)	2018	Change from Sep (bu)	Change from 2018 (bu)		Sep 2019 (F)	Aug 2019 (F)	2018	Change from Sep (bu)	Change from 2018 (bu)
Midwest States						Midwest States					
Illinois	180	181	210	-1	-30	Illinois	53	55	65	-2	-12
Indiana	161	166	189	-5	-28	Indiana	49	50	59	-1	-10
Iowa	191	191	196	+0	-5	Iowa	54	55	57	-1	-3
Kansas	136	135	129	+1	+7	Kansas	44	42	44	+2	+1
Michigan	148	155	153	-7	-5	Michigan	42	45	48	-3	-6
Minnesota	171	173	182	-2	-11	Minnesota	45	46	51	-1	-6
Missouri	160	160	140	+0	+20	Missouri	46	45	45	+1	+1
Nebraska	186	186	192	+0	-6	Nebraska	58	58	59	+0	-1
North Dakota	145	146	153	-1	-8	North Dakota	35	35	36	+0	-1
Ohio	158	160	187	-2	-29	Ohio	48	48	58	+0	-10
South Dakota	156	157	160	-1	-4	South Dakota	44	45	46	-1	-2
Wisconsin	163	165	172	-2	-9	Wisconsin	47	47	49	+0	-2
Southern States						Southern States					
Alabama	161	161	156	+0	+5	Alabama	44	44	41	+0	+3
Arkansas	177	180	181	-3	-4	Arkansas	50	51	51	-1	-1
Georgia	166	170	176	-4	-10	Georgia	33	38	40	-5	-7
Kentucky	177	181	175	-4	+2	Kentucky	53	53	52	+0	+1
Louisiana	166	181	173	-15	-7	Louisiana	49	51	52	-2	-3
Mississippi	176	176	185	+0	-9	Mississippi	51	53	55	-2	-4
North Carolina	110	110	113	+0	-3	North Carolina	38	38	34	+0	+4
Oklahoma	140	145	134	-5	+6	Oklahoma	26	26	30	+0	-4
South Carolina	117	109	127	+8	-10	South Carolina	34	31	30	+3	+5
Tennessee	175	174	168	+1	+7	Tennessee	50	50	46	+0	+4
Texas	140	145	108	-5	+32	Texas	29	38	32	-9	-3
Virginia	149	147	146	+2	+3	Virginia	38	43	43	-5	-5
United States	168.2	169.5	176.4	-1.3	-8.2	United States	47.9	48.5	51.6	-0.6	-3.7

Analysts also expected USDA to trim the soybean yield by 1.3 BPA from the August estimate. USDA did reduce the 2019 soybean yield by 0.6 BPA from the August estimate to an estimated yield of 47.9 BPA. If realized, the 2019 soybean yield would be 3.7 BPA less than the 2018 soybean yield.

USDA reduced the estimated soybean yield by 1 to 3 bushels in most of the Midwest states from the initial August estimate (Table 2). However, the estimated soybean yields were increased from the August estimate in Kansas and Missouri by 2 and 1 BPA, respectively. If realized, the 2019 soybean yields in the Midwestern states will be 10, 10, and 12 BPA lower than last year in Indiana, Ohio, and Illinois, respectively. Yields in the other Midwestern states are also estimated to be lower by 1 to 6 BPA, except for the yields in Missouri and Kansas.

The estimated soybean yields in the Southern states reflect the variability in yield potential and yield risk across the region. USDA currently projects the 2019 soybean yield in the Southern region to be greater than last year's yields in Alabama (+3), Kentucky (+1), North Carolina (+4), South Carolina (+5) and Tennessee (+4). The rest of the region is currently estimated to have lower yields ranging from -1 BPA in Arkansas to -7 BPA in Georgia.

Analysts interpreted the September *Crop Production* report as a positive report as the yields are estimated lower than the initial estimates. The statistical models used to estimate the 2019 yields will become more accurate as both crops reach physiological maturity. Both markets are anticipating further reductions in yield in future reports. A reduction in yield and/or harvested area will trim the size of the 2019 crops and provide a fundamental reason for higher prices.

Topic 2. September WASDE Report: Markets Wait for Harvest to Begin to Provide Market Data

The September WASDE incorporates the production projections from the *Crop Production* report. For corn, this means a 102 million bushel reduction in the corn crop from the August estimates to a 2019 corn crop of 13.79 billion bushels is assumed as the production estimate in the balance sheet (Table 3).

	2016-17	2017-18	2018-19 Estimated	2019-20 Projected	Change from 18-19
Planted Area (million)	94.0	90.2	89.1	90.0	+0.9
Harvested Area (million)	86.7	82.7	81.7	82.0	+0.3
Yield (bushels/acre)	174.6	176.6	176.4	168.2	-8.2
----- Million Bushels -----					
Beginning Stocks	1,737	2,293	2,140	2,445	+305
Production	15,148	14,609	14,420	13,799	-621
Imports	<u>57</u>	<u>36</u>	<u>25</u>	<u>50</u>	<u>+25</u>
Total Supply	16,942	16,939	16,585	16,295	-290
Feed and Residual	5,472	5,304	5,275	5,175	-100
Food, Seed & Industrial	6,883	7,056	6,805	6,880	+75
Ethanol and by-products	5,432	5,605	5,375	5,450	+75
Exports	<u>2,293</u>	<u>2,438</u>	<u>2,060</u>	<u>2,050</u>	<u>-10</u>
Total Use	14,649	14,799	14,140	14,105	-35
Ending Stocks	2,293	2,140	2,445	2,190	-255
Stocks/Use	15.7%	14.5%	17.3%	15.5%	-1.8%
Days of Stocks	57	53	63	57	-6
U.S. Marketing-Year Average Price (\$/bu)	\$3.36	\$3.36	\$3.60	\$3.60	+\$0.00

Source: September 2019 WASDE - USDA: WAOB.

The September report reduced old-crop imports by 5 million bushels, reduced ethanol demand by 50 million bushels, and reduced exports by 40 million bushels. The net increase in old-crop stocks is 85 million bushels for a total of 2.45 billion (Table 3).

The 2019 corn crop, if realized, will be 621 million bushels smaller than the 2018 crop. The large carry-in and larger expected corn imports mute the impact of the smaller corn crop on supply. USDA project the 2019 corn supply at 16.3 billion bushels, which is 290 million bushels less than in 2018.

Corn demand is projected slightly lower to 14.1 billion bushels with increased ethanol use offsetting lower exports. Feed use is projected lower in response to a smaller corn crop (Table 3).

The 2019-20 corn ending stocks is currently projected at 2.19 billion bushels, which would be 255 million bushels less than last year if realized. The stocks-to-use ratio is projected to decline slightly. However, USDA is projecting the U.S. marketing year average (MYA) farm price to remain at \$3.60 per bushel (Table 3).

	2016-17	2017-18	2018-19 Estimated	2019-20 Projected	Change from 18-19
Planted Area (million)	83.4	90.2	89.2	76.7	-12.5
Harvested Area (million)	82.7	89.5	88.1	75.9	-12.2
Yield (bushels/acre)	52	49.3	51.6	47.9	-3.7
----- Million Bushels -----					
Beginning Stocks	197	302	438	1,005	+567
Production	4,296	4,412	4,544	3,633	-911
Imports	<u>22</u>	<u>22</u>	<u>17</u>	<u>20</u>	<u>+3</u>
Total Supply	4,515	4,735	4,999	4,658	-341
Crushings	1,901	2,055	2,085	2,115	+30
Exports	2,174	2,129	1,745	1,775	+30
Seed	105	104	89	96	+7
Residual	<u>34</u>	<u>9</u>	<u>75</u>	<u>32</u>	<u>-43</u>
Total Use	4,213	4,297	3,994	4,018	+24
Ending Stocks	302	438	1,005	640	-365
Stocks/Use	7.2%	10.2%	25.2%	15.9%	-9.2%
Days of Stocks	26	37	92	58	-33.7
U.S. Marketing-Year Average Price (\$/bu)	\$9.47	\$9.33	\$8.50	\$8.50	+\$0.00

Source: September 2019 WASDE - USDA: WAOB.

USDA made minor adjustments to the old-crop balance sheet by increasing crushing demand by 20 million bushels from the previous report. USDA also increased old-crop exports by 45 million bushels from the August report. As a result, old-crop ending stocks were decreased by 65 million bushels to a little over 1 billion bushels (Table 4).

The September *Crop Production* estimates were adopted in the WASDE report, which implies a 2019 soybean crop that is 911 million bushels smaller than last year's crop. USDA projects harvested area down 12.2 million acres to 75.9 million. Yield is projected at 47.9 bushels/acre down 3.7 bushels from last year.

The projected carry-in of 1.005 billion bushels limits the impact of a smaller crop with total supply projected lower by only 341 million bushels.

USDA projects 2019-20 soybean ending stocks at 640 million bushels, which is a 410 million bushel reduction from last year. The large relative stocks-to-use of 15.9% will limit prices from moving higher. USDA currently projects a U.S. MYA farm price of \$8.50 per bushel, which is unchanged from last year's MYA price (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	45.6	-2.2
Harvested Acres (million)	43.9	37.6	39.6	38.4	-1.2
Yield (bushels/acre)	52.7	46.4	47.6	51.6	+4.0
----- Million Bushels -----					
Beginning Stocks	976	1,181	1,099	1,072	-27
Production	2,309	1,741	1,884	1,980	+96
Imports	<u>118</u>	<u>157</u>	<u>135</u>	<u>135</u>	<u>+0</u>
Total Supply	3,402	3,079	3,118	3,187	+69
Food	949	964	955	960	+5
Seed	61	63	60	68	+8
Feed and Residual	156	51	96	170	+74
Exports	<u>1,055</u>	<u>901</u>	<u>936</u>	<u>975</u>	<u>+39</u>
Total Use	2,222	1,980	2,046	2,173	+127
Ending Stocks	1,181	1,099	1,072	1,014	-58
Stocks/Use	53.2%	55.5%	52.4%	46.7%	-5.7%
Days of Stocks	194	203	191	170	-21
U.S. Marketing-Year Average Price (\$/bu)	\$3.89	\$4.72	\$5.16	\$4.80	-\$0.360

Source: September 2019 WASDE - USDA: WAOB.

USDA did not adjust any projections in the old-crop or new-crop wheat balance sheet in the September report. Total new-crop wheat supply is projected at 3.18 billion bushels, a 69-million bushel increase from last.

Wheat demand is projected to increase by 127 million bushels from last year. USDA projects slightly higher exports at 975 million bushels. Feed use is projected to be 74 million bushels above 2018 due to an expected smaller corn crop. Both projections might be reduced in future reports, which would increase ending stocks.

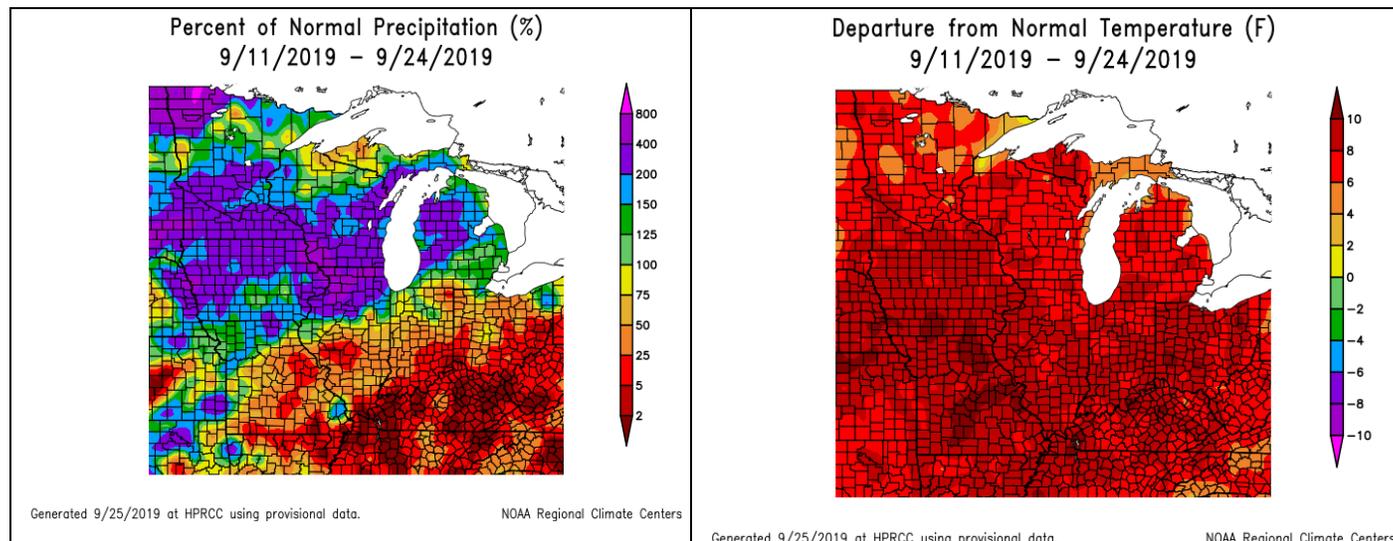
Current ending stocks are projected at 1.01 billion bushels, which is slightly less than last year (Table 5).

USDA projects the 2019 U.S. MYA farm price at \$4.80/bushel, which is \$0.36/bushel below last year's MYA price (Table 5). While the days of wheat stocks are projected to decline by 21 days, stocks are sufficient to withstand a stronger than expected increase in use, which would typically move prices higher.

Because the corn and soybean crops are developing slower than average, the statistical models used by NASS to project yields are not as accurate as in previous years for the September report. The market is anticipating actual harvest data to show a further reduction in the size of the corn and soybean crops and a corresponding reduction in stocks to support higher MYA prices.

Topic 3. Short-Term Precipitation and Temperature Outlook

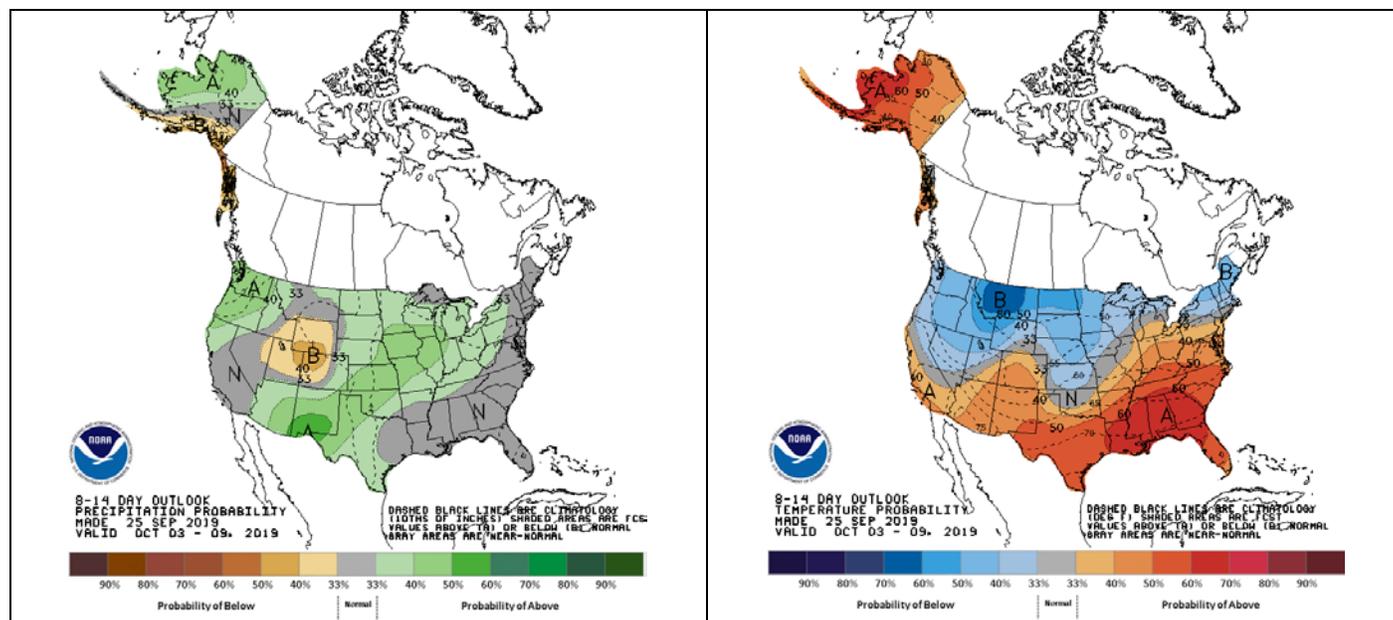
The percentage of normal precipitation for September 11 to September 24, 2019, is shown in the map on the left below. Iowa, northern Illinois, the Dakotas, Wisconsin, and Michigan have received an above-average amount of precipitation in the last two weeks. Also, the region has received above-average temperatures for the last two weeks.



The market was monitoring temperature throughout the growing season to gauge the risk of an earlier than normal killing frost that would trim corn and soybean yields. The above-average temperatures have reduced the concern of an early frost affecting immature crops. Instead, the market is now focused on the heavier than normal precipitation that might set the stage for a harvest similar to last year where rain delayed combines and post-harvest fieldwork.

The 8 to 14-day precipitation (below left) outlook suggest there is an above-average probability of rain throughout the Midwest states as well as Kentucky and West Tennessee. 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 (below right) forecasts below-normal temperatures will continue across the Midwest for the next 8 to 14-day period. The below-normal temperatures will not help late-planted corn and soybeans in their race to catch-up on progressing towards physiological maturity.



Topic 4. 2019 Corn and Soybean Condition and Progress

The late-planted corn and soybean crops are in worse condition than the 2018 crops. Table 6 and Table 7 report the percentages of the corn and soybean crops, respectively, rated in very poor plus poor (VPP) and good and excellent (GE) condition for the U.S., the top-five producing states, and Kentucky as of September 23, 2019. The tables also show the change in the ratings from 2018, the 2018 yield, and the September estimated 2019 yield. The states east of the Mississippi River have a larger percentage of corn in VPP condition this year as compared to 2018. Also, those states east of the Mississippi River have a smaller percentage rated in GE condition this year compared to last year. For example, Illinois has 18% of the 2019 corn crop rated in VPP condition and 45% rated in GE condition as of September 23, 2019. The Illinois crop has 12% more rated in VPP and 34% less in GE condition this year as compared to the 2018 corn crop. The U.S. corn crop is currently rated as having 13% in VPP condition and 57% in GE condition. Compared to 2018, the U.S. corn crop has 1% more in VPP condition and 12% less in GE condition (Table 6).

Table 7 provides the percentage of the 2019 soybean crop rated in VPP condition and GE condition as of September 23, 2019, with a comparison for the same period in 2018. The top-five soybean-producing states, Kentucky, and the U.S. soybean crop's condition are worse than the 2018 soybean crop. As in corn, the soybean crops east of the Mississippi River have a larger percentage in VPP condition and a smaller percentage in GE condition than in 2018 as compared to soybeans in states west of the Mississippi River.

Indiana, the fifth-largest soybean state, has 29% of the soybean crop rated in VPP condition and 31% rated in GE condition. Compared to 2018, Indiana has 21% more rated in VPP condition and 40% less rated in GE condition for Indiana soybeans. In contrast, Nebraska's soybeans are viewed to have 6% in VPP condition and 74% in GE condition for 2019. Compared to 2018, the VPP condition is the same as last year, and the percentage in GE condition is 9% less

than last year. The U.S. soybean crop is rated as having 13% in VPP condition and 54% in GE condition as of September 23, 2019. Compared to last year, the percentage in VPP condition has increased by 3% and the percentage rated in GE condition has decreased by 14%.

Table 6. Corn Crop Rating Comparison for the 2018 and 2019 Crop Years for the U.S. and Selected States.

	Very Poor + Poor	Good + Excellent	Change in Very Poor + Poor	Change in Good + Excellent	2018 Yield	2019 Sep Yield
Illinois (#2)						
2018	6%	79%	+12%	-34%	210	180
2019	18%	45%				
Indiana (#5)						
2018	8%	73%	+21%	-42%	189	161
2019	29%	31%				
Iowa (#1)						
2018	9%	73%	+0%	-8%	196	191
2019	9%	65%				
Minnesota (#4)						
2018	6%	78%	+6%	-23%	182	171
2019	12%	55%				
Nebraska (#3)						
2018	6%	82%	+3%	-11%	192	186
2019	9%	71%				
Kentucky (#14)						
2018	5%	79%	+6%	-13%	175	177
2019	11%	66%				
U.S. 18-State Ranking						
2018	12%	69%	+1%	-12%	176.4	168.2
2019	13%	57%				

Source: USDA *Crop Progress Report*, September 23, 2019.

Table 7. Soybean Crop Rating Comparison for the 2018 and 2019 Crop Years for the U.S. and Selected States.

	Very Poor + Poor	Good + Excellent	Change in Very Poor + Poor	Change in Good + Excellent	2018 Yield	2019 Sep Yield
Illinois (#2)						
2018	7%	79%	+11%	-36%	65	53
2019	18%	43%				
Indiana (#5)						
2018	8%	71%	+21%	-40%	58.5	49
2019	29%	31%				
Iowa (#1)						
2018	7%	72%	+2%	-10%	57	54
2019	9%	62%				
Minnesota (#4)						
2018	8%	73%	+2%	-18%	50.5	45
2019	10%	55%				
Nebraska (#3)						
2018	6%	83%	+0%	-9%	59	58
2019	6%	74%				
Kentucky (#14)						
2018	5%	81%	+12%	-24%	52	53
2019	17%	57%				
U.S. 18-State Ranking						
2018	10%	68%	+3%	-14%	51.6	47.9
2019	13%	54%				

Source: USDA *Crop Progress Report*, September 23, 2019.

Table 8 reports the percentage of each state's corn crop at the maturity stage compared to last week, last year, and the five-year average progress. The state production rankings are included behind the state name with the top-five corn-producing states shaded green.

Table 8. 2019 Corn Maturity Progress Compared to the Previous Week, Previous Year, and the Five-Year Average.

	Sep 22, 2018	Sep 15, 2019	Sep 22, 2019	2014-2018 Average	Change from 5-Year Average	Change from 2018
	%	%	%	%	%	%
COLORADO (15)	37	5	23	33	-10	-14
ILLINOIS (2)	84	14	26	71	-45	-58
INDIANA (5)	78	16	26	61	-35	-52
IOWA (1)	71	8	18	55	-37	-53
KANSAS (7)	78	43	60	72	-12	-18
KENTUCKY (14)	86	71	82	83	-1	-4
MICHIGAN (11)	43	3	8	35	-27	-35
MINNESOTA (4)	63	2	8	44	-36	-55
MISSOURI (10)	88	30	54	80	-26	-34
NEBRASKA (3)	65	19	37	56	-19	-28
NORTH CAROLINA (18)	96	93	95	96	-1	-1
NORTH DAKOTA (12)	62	3	5	37	-32	-57
OHIO (8)	51	8	17	44	-27	-34
PENNSYLVANIA (16)	52	32	50	50	+0	-2
SOUTH DAKOTA (6)	64	6	12	44	-32	-52
TENNESSEE (17)	92	84	95	91	+4	+3
TEXAS (13)	81	67	77	77	+0	-4
WISCONSIN (9)	52	2	8	37	-29	-44
18-States	69	18	29	57	-28	-40

Source: USDA *Crop Progress Report*, September 23, 2019.

As of September 23, 2019, 29% of the U.S. corn crop was at the maturity phase, which is 28% behind the five-year average progress and 40% behind last year's progress (Table 8). Of the eighteen states surveyed, only Tennessee is ahead of the five-year average maturity progress. The top-five corn states are all behind the long-term average progress. Illinois, Indiana, Iowa, Minnesota, and Nebraska are 45%, 35%, 37%, 36%, and 19% behind their respective five-year average.

Table 9 provides an update of the 2019 soybean progress at dropping leaves. As of September 23, 34% of the U.S. soybean crop is dropping leaves, which is 25% behind the 5-year average progress for this date and 34% behind last year's progress. The top-five soybean-producing states, shaded green, are running 42% (Illinois), 38% (Indiana), 32% (Iowa), 29% (Minnesota), and 14% (Nebraska) behind their respective five-year average progress. Michigan, Ohio, and Wisconsin are also 21%, 33% and 24% behind, respectively, their five-year average progress.

Table 9. 2019 Soybeans Progress in Dropping Leaves Compared to the Previous Week, Previous Year, and the Five-Year Average.

	2018	2019	2019	2014-2018	Change from	Change from
	Sep 22, 2018	Sep 15, 2019	Sep 22, 2019	Average	5-Year Average	2018
	%	%	%	%	%	%
Arkansas (#11)	56	30	47	60	-13	-9
Illinois (#1)	73	3	14	56	-42	-59
Indiana (#4)	78	5	26	64	-38	-52
Iowa (#2)	69	5	22	54	-32	-47
Kansas (#10)	46	13	27	41	-14	-19
Kentucky (#15)	44	25	41	38	+3	-3
Louisiana (#17)	90	71	81	86	-5	-9
Michigan (#13)	59	17	35	56	-21	-24
Minnesota (#3)	79	14	36	65	-29	-43
Mississippi (#12)	78	50	64	75	-11	-14
Missouri (#7)	38	2	12	31	-19	-26
Nebraska (#5)	81	22	55	69	-14	-26
North Carolina (#18)	38	32	45	35	+10	+7
North Dakota (#9)	90	42	67	83	-16	-23
Ohio (#6)	65	5	27	60	-33	-38
South Dakota (#8)	81	9	30	73	-43	-51
Tennessee (#16)	57	39	57	53	+4	+0
Wisconsin (#14)	60	6	24	48	-24	-36
18-States	68	15	34	59	-25	-34

Source: USDA Crop Progress Report, September 23, 2019.

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

Figure 1, Figure 2, and Figure 3 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 \$0.05/bushel under the December corn contract, which is a \$0.28/bushel increase from the 2018 basis in September. 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 1).

The average soybean basis, as of September 20, 2019, was -\$0.45/bushel under the November 2019 soybean contract. The basis is \$0.29 per bushel narrower than the 2018 basis in September, but \$0.10 per bushel wider than the 2017 basis (Figure 2). Last year, the basis appreciated \$0.19/bushel from October to February, but the 2017 crop’s basis appreciated \$0.24/bushel from harvest to February.

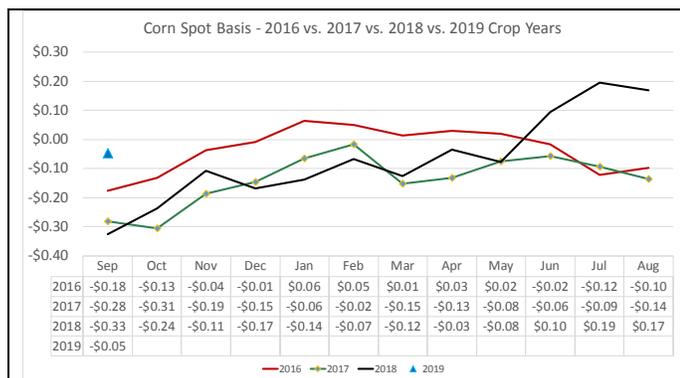


Figure 1. Western Kentucky Corn Spot Market Basis Appreciation from September to August for the 2016 to 2019 Crop Years.
Basis Calculated on September 20, 2019

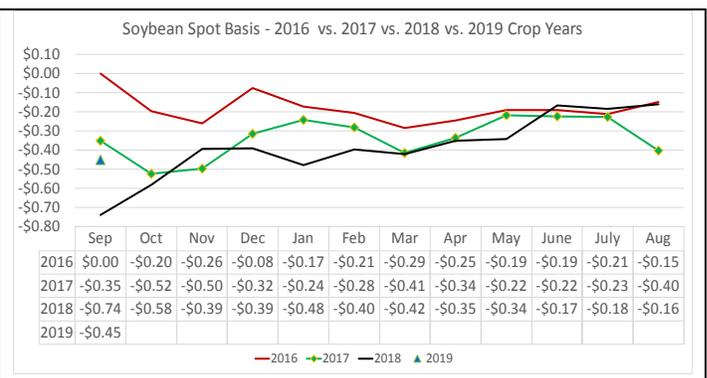
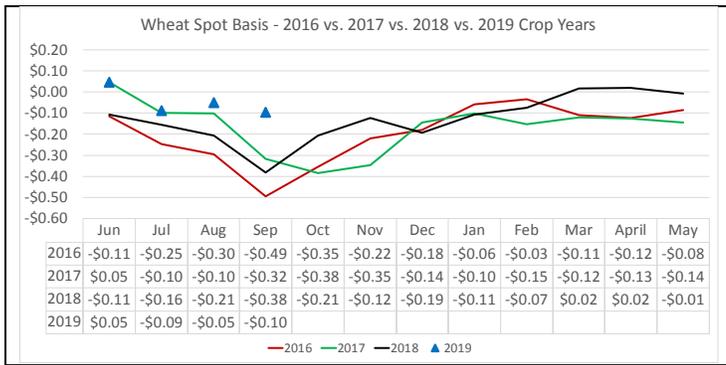


Figure 2. Western Kentucky Soybean Spot Market Basis Appreciation from September to August for the 2016 to 2019 Crop Years.
Basis Calculated on September 20, 2019



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 $-\$0.10$ /bushel below the December futures contract. Seasonality suggests that basis will continue to widen into the fall. However, the stronger basis than previous years might limit the extent of basis depreciation this year.

Figure 3. Western Kentucky Wheat Spot Market Basis Appreciation from June to May for the 2016 to 2019 Crop Years.

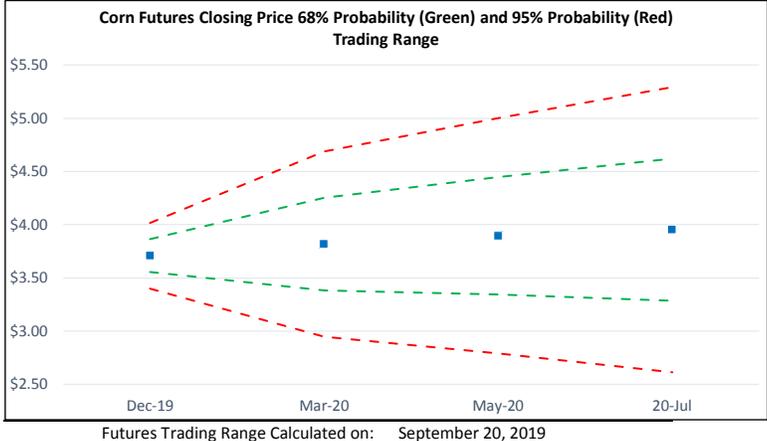
Basis Calculated on September 20, 2019

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

Figures 4–6 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 4 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 $\$3.55$ and $\$3.86$ and a 95% probability that the December 2019 corn contract will trade between $\$3.40$ and $\$4.02$. Managers considering storing corn into 2020 should monitor the March 2020 contract, which has a 68% probability of trading between $\$3.34$ and $\$4.45$ per bushel. The July 2020 corn contract has a 68% probability of trading between $\$3.28$ and $\$4.62$ per bushel (Figure 4).

Figure 4. Corn Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



Trading range calculated on September 20, 2019, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on September 20, 2019, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Figure 5 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 $\$8.59$ and $\$9.07$ per bushel (Figure 5). 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 \$8.38 and \$9.79 per bushel. The July 2020 soybean contract has a 68% probability of trading between \$8.19 and \$10.38 per bushel (Figure 5).

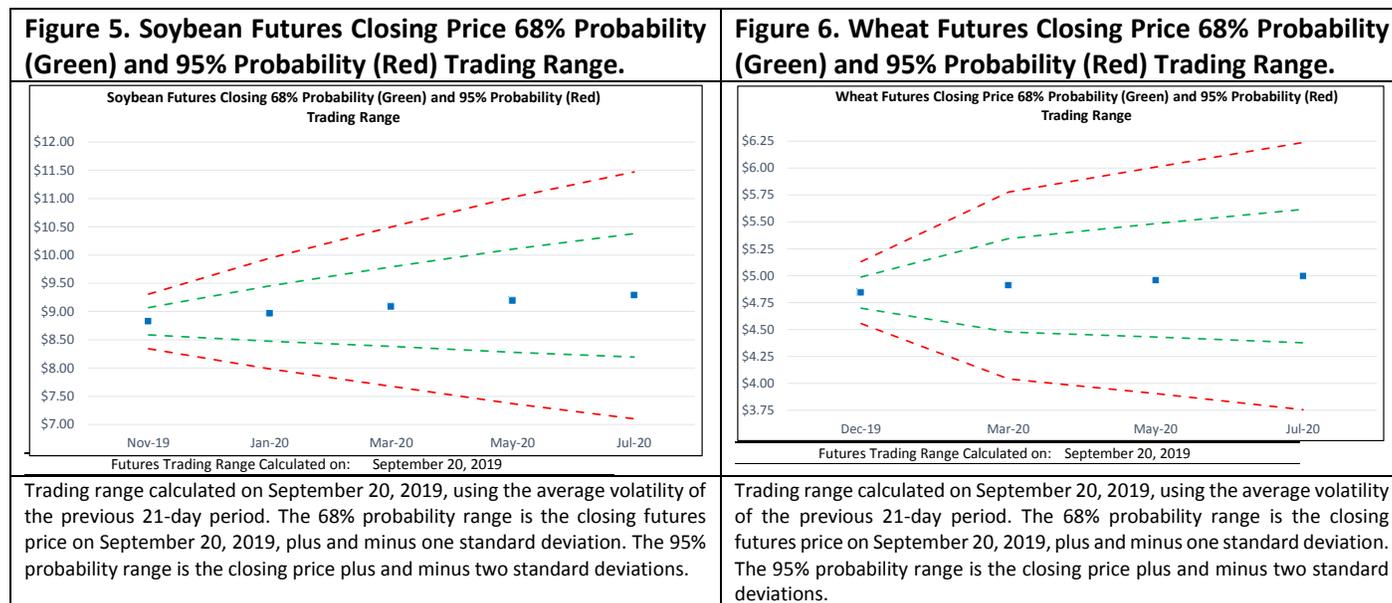


Figure 6 provides the probabilistic trading range for wheat futures contract from December 2019 to July 2020 contracts. The December 2019 wheat contract has a 68% chance of trading between \$4.70 and \$4.99/bushel, which should be monitored for managing 2019 wheat that is planned to be stored. Similarly, the March 2020 contract has a 68% chance of trading between \$4.48 and \$5.34/bushel. The July 2020 Futures contract has a 68% probability of trading between \$4.38 and \$5.62 per bushel and should be considered as a tool to manage price risk for producers planning on seeding wheat for 2020 (Figure 6).

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

Tables 10-13 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. Yes, I am talking about 2020 risk management alternatives 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 for 2019 because I do not anticipate input costs or rental rates to decline significantly from 2019.

Table 10 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. Two 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 \$3.77/bushel assuming a -\$0.25/bushel harvest-time basis. The second alternative is to establish a price floor at \$3.49/bushel by buying a put option with a \$4.00 strike price that costs \$0.26.

Table 10. Risk Management Alternatives for 2020 Western Kentucky Corn for Various Yield Objectives.						
Yield	150	160	170	180	190	200
TVC+Rent+Overhead+Family Living (\$/acre)	\$704	\$704	\$704	\$704	\$704	\$704
TVC+Rent+Overhead+Family Living (\$/bu)	\$4.69	\$4.40	\$4.14	\$3.91	\$3.71	\$3.52
Hedge @ \$4.02+ -\$0.25 basis = \$3.77	-\$0.92	-\$0.63	-\$0.37	-\$0.14	+\$0.06	+\$0.25
Put: \$4.00 strike @ \$0.26 = \$3.49 floor	-\$1.20	-\$0.91	-\$0.65	-\$0.42	-\$0.22	-\$0.03
Strategies Evaluated on:	September 20, 2019					

Table 10 demonstrates that risk management opportunities exist to lock in a profit above total economic costs and family living if yields exceed 190-bushels. If the 2019 corn crop is reduced further 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 11 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 \$0.20/bushel for yields of 60 bushels/acre or greater. Managers are hoping for a price better than \$9.40 November 2020 soybeans. However, the 2018 November contract has shown the price risk in the soybean market and that prices can move lower.

Yield	45	50	55	60	65
TVC+Rent+Overhead+Family Living (\$/acre)	\$522	\$522	\$522	\$522	\$522
TVC+Rent+Overhead+Family Living (\$/bu)	\$11.60	\$10.44	\$9.49	\$8.70	\$8.03
Hedge @ \$9.40 + -\$0.50 basis = \$8.90	-\$2.70	-\$1.54	-\$0.59	+\$0.20	+\$0.87
Put: \$9.60 strike @ \$0.627 = \$8.47 floor	-\$3.13	-\$1.97	-\$1.02	-\$0.23	+\$0.44
Strategies Evaluated on:	September 20, 2019				

Table 12 illustrates the risk management potential for wheat in 2020. The costs in Table 12 assumes that rent is split evenly between wheat and double-crop soybeans. Current prices are not providing an opportunity to lock in a return over total economic costs plus family living for yields less than 100 bushels/acre. Some managers have been able to harvest yields approaching 100 bushels, which suggests an opportunity may exist.

Yield	80	85	90	95	100
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 @ \$5.00 - \$0.15 basis = \$4.85	-\$1.10	-\$0.75	-\$0.44	-\$0.16	+\$0.09
Put: \$5.10 strike @ \$0.373 = \$4.58 floor	-\$1.37	-\$1.02	-\$0.71	-\$0.43	-\$0.18
Strategies Evaluated on:	September 20, 2019				

Yield	35	40	45	50	55
TVC+Rent+Overhead+Family Living (\$/acre)	\$393	\$393	\$393	\$393	\$393
TVC+Rent+Overhead+Family Living (\$/bu)	\$11.21	\$9.81	\$8.72	\$7.85	\$7.14
Hedge @ \$9.40+ -\$0.50 basis = \$8.90	-\$2.31	-\$0.91	+\$0.18	+\$1.05	+\$1.77
Put: \$9.60 strike @ \$0.627 = \$8.47 floor	-\$2.74	-\$1.34	-\$0.25	+\$0.62	+\$1.34
Strategies Evaluated on:	September 20, 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. Given the fundamental weakness for soybeans, managers should consider pricing a percentage of double-crop soybean production that will be sold at harvest as fundamentals are limiting upside price potential unless 2019 stocks decline further than currently projected (Table 13).

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

Table 14 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 \$3.55 per bushel. The annual interest rate is 5%, which gives a monthly interest cost of \$0.015/bushel for corn. The corn futures complex closing prices on September 20, 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 +\$0.08/bushel in January 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 14).

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 +\$0.01/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 \$0.19/bushel and \$0.12/bushel, respectively (Table 14).

Table 14. Projected Return to Storage for On-Farm and Commercial for Corn.									Table 15. Projected Return to Storage for On-Farm and Commercial for Soybeans.								
Harvest Cash Price \$3.55									Harvest Cash Price \$8.36								
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE		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	\$0.23	\$0.25	On-Farm Storage Cost (\$/bu)	\$0.16	\$0.20	\$0.23	\$0.27	\$0.30	\$0.34	\$0.37	\$0.41
Commercial Storage (\$/bu)	\$0.21	\$0.23	\$0.24	\$0.31	\$0.37	\$0.44	\$0.50	\$0.57	Commercial Storage (\$/bu)	\$0.33	\$0.37	\$0.40	\$0.49	\$0.52	\$0.56	\$0.59	\$0.63
Most Likely Spot Price Forecast (\$/bu)	\$3.63	\$3.74	\$3.80	\$3.84	\$3.87	\$3.91	\$3.97	\$4.00	Most Likely Spot Price Forecast (\$/bu)	\$8.75	\$8.87	\$8.97	\$8.97	\$8.99	\$9.02	\$9.15	\$9.20
Conservative Spot Forecast (\$/bu)	\$3.52	\$3.65	\$3.68	\$3.75	\$3.74	\$3.76	\$3.87	\$3.90	Conservative Spot Forecast (\$/bu)	\$8.47	\$8.57	\$8.61	\$8.69	\$8.77	\$8.84	\$8.94	\$9.06
Optimistic Spot Forecast (\$/bu)	\$3.77	\$3.88	\$3.91	\$3.89	\$3.99	\$4.02	\$4.11	\$4.10	Optimistic Spot Forecast (\$/bu)	\$9.06	\$9.13	\$9.27	\$9.30	\$9.35	\$9.34	\$9.53	\$9.52
Returns to On-Farm Storage									Returns to On-Farm Storage								
Conservative	-\$0.07	+\$0.03	+\$0.08	+\$0.10	+\$0.12	+\$0.14	+\$0.18	+\$0.20	Conservative	+\$0.23	+\$0.31	+\$0.38	+\$0.34	+\$0.33	+\$0.32	+\$0.42	+\$0.44
Optimistic	-\$0.17	-\$0.06	-\$0.04	+\$0.01	-\$0.01	-\$0.01	+\$0.09	+\$0.10	Optimistic	-\$0.05	+\$0.02	+\$0.02	+\$0.07	+\$0.11	+\$0.15	+\$0.22	+\$0.30
	+\$0.08	+\$0.17	+\$0.19	+\$0.15	+\$0.23	+\$0.25	+\$0.33	+\$0.30		+\$0.54	+\$0.57	+\$0.68	+\$0.67	+\$0.69	+\$0.65	+\$0.80	+\$0.76
Returns to Commercial Storage									Returns to Commercial Storage								
Conservative	-\$0.14	-\$0.04	+\$0.01	-\$0.03	-\$0.05	-\$0.08	-\$0.09	-\$0.12	Conservative	+\$0.06	+\$0.14	+\$0.21	+\$0.12	+\$0.11	+\$0.10	+\$0.20	+\$0.22
Optimistic	-\$0.25	-\$0.13	-\$0.12	-\$0.11	-\$0.19	-\$0.23	-\$0.18	-\$0.23	Optimistic	-\$0.22	-\$0.15	-\$0.15	-\$0.16	-\$0.11	-\$0.08	-\$0.01	+\$0.08
	+\$0.00	+\$0.10	+\$0.12	+\$0.03	+\$0.06	+\$0.03	+\$0.06	-\$0.02		+\$0.37	+\$0.40	+\$0.51	+\$0.45	+\$0.46	+\$0.43	+\$0.58	+\$0.54
Projected on September 20, 2019.									Projected on September 20, 2019.								

The projected on-farm and commercial storage returns for soybeans are presented in Table 15. The harvest price for soybeans is projected at \$8.36 per bushel, with a monthly interest cost of \$0.0348/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 +\$0.38/bushel in January 2020 (Table 15). 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 +\$0.02/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 15 suggest a +\$0.21/bushel return to commercial storage for the most likely basis assumption, but a -\$0.15/bushel return for the conservative basis (Table 15).

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 16. Western Kentucky Corn Storage Risk Management to February 2020 for Various Yield Objectives.				
Storage Hedge: Feb 2020	Corn			
	170	180	190	200
Yield				
TVC+Rent+Overhead+Family Living (\$/acre)	\$704	\$704	\$704	\$704
TVC+Rent+Overhead+Family Living (\$/bu)	\$4.14	\$3.91	\$3.71	\$3.52
TVC+Rent+OH+Family+\$0.21 storage (\$/bu)	\$4.35	\$4.12	\$3.92	\$3.73
Hedge @ \$3.8175+\$0.05 basis = \$3.87	-\$0.48	-\$0.25	-\$0.05	+\$0.14
Put: \$3.80 strike @ \$0.151 = \$3.70 floor	-\$0.65	-\$0.42	-\$0.22	-\$0.03
Strategies Evaluated on:	September 20, 2019			

Table 16 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 more than 190-bushel corn 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 (Table 16).

Table 17 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.

Storage Hedge: Feb 2020		Soybeans				The example illustrates that a yield of 65-bushels is needed to lock in a profit using the futures market or forward contracts. Table 17 also illustrates that farmers harvesting lower yields will be challenged to find profitability at current prices and the assumed costs.
Yield	40	50	60	70		
TVC+Rent+Overhead+Family Living (\$/acre)	\$522	\$522	\$522	\$522		
TVC+Rent+Overhead+Family Living (\$/bu)	\$13.05	\$10.44	\$8.70	\$7.46		
TVC+Rent+OH+Family+\$0.27 storage (\$/bu)	\$13.32	\$10.76	\$9.02	\$7.78		
Hedge @ \$9.09 + -\$0.30 basis = \$8.79	-\$4.53	-\$1.97	-\$0.23	+\$1.01		
Put: \$9.00 strike @\$0.284 = \$8.42 floor	-\$4.90	-\$2.34	-\$0.60	+\$0.64		
Strategies Evaluated on:	September 20, 2019					

Topic 10. Potential 2019-20 Corn and Soybean Stocks-to-Use and Price Potential

The market is waiting for real data from harvested acres to answer the remaining questions on the size of the 2019 corn and soybean crops. Questions remain on the acres harvested and if the percentage of acres not harvested will increase this year due to the potentially more drowned-out spots in fields.

Tables 18 and 19 provide a matrix of potential U.S. corn and soybeans ending stocks-to-use ratios, respectively, for varying harvested area and yields. The objective of Tables 18 and 19 are to identify what acreage and yields might support higher corn and soybean U.S. MYA farm prices based on current supply and demand projections from USDA.

Let us start the discussion with the potential U.S. 2019-20 corn ending stocks in Table 18. Table 18 assumes a harvested area of 82 million acres from the September report with a reduction of 1 million and 2 million harvested acres from the September estimate. The matrix also assumes the September projected yield of 168.2-bushels (rounded to 168 bushels) with yields of 166-bushels and 169-bushels for sensitivity analysis.

Ending Stocks (Million Bushels)				Stocks-to-Use Ratio			
Harvested Area (million)	Yield (bu/acre)			Harvested Area (million)	Yield (bu/acre)		
	166	168	169		166	168	169
82	2,002	2,166	2,248	82	14.2%	15.4%	15.9%
81	1,836	1,998	2,079	81	13.0%	14.2%	14.7%
80	1,670	1,830	1,910	80	11.8%	13.0%	13.5%

Source: USDA-World Agricultural Outlook Board and Author's Projections.

The right side of Table 18 is a matrix of potential ending stocks-to-use ratios for the 2019-20 corn market, assuming carry-in plus imports of 2.495 billion bushels from the September WASDE. Total use is held constant at 14.105 billion bushels, which is the total use from the September WASDE. The 2019-20 stocks-to-use ratio could be 11.8% if the harvested area is 80 million acres, and the yield is 166 bushels/acre. An 11% stocks-to-use ratio suggests the U.S. MYA farm price would be \$4.00/bushel, or \$0.40/bushel higher than the September 2019 estimate. To obtain a U.S. MYA price closer to \$5.00/bushel, the stocks-to-use ratio would need to be reduced to about 5%. Given the large carry-in, the likelihood of achieving \$5/bushel corn is fairly small unless the 2019 corn crop is reduced in size in future reports.

The story from Table 18 is that the futures price could adjust higher if there is some concern of stocks declining steadily. If a price bump occurs, it could be fleeting, and managers should be prepared to take advantage of pricing opportunities. The yield and acreage uncertainty will likely be debated all fall and into the final report in January. Therefore, a pricing opportunity may not materialize for the December 2019 contract, but instead for a deferred

contract. Vigilance is necessary to monitor pricing opportunities for the 2019 crops as well as opportunities for the December 2020 corn futures contract.

Table 19 provides a similar analysis for the 2019-20 soybean ending stocks-to-use ratio and potential U.S. MYA farm price. The 75.9 million harvested acres from the September report is adopted along with an area that is 600 thousand acres higher or lower. The matrix uses the projected yield of 48 bushels/acre along with yields for 46.5 and 49.5 bushels/acre.

Table 19 assumes a carry-in plus imports of 1.025 billion bushels and total soybean use of 4.018 billion bushels. These estimates are from the September WASDE. If the harvested area is 75.9 million acres and the yield is 46.5 bushels/acre, the stocks-to-use ratio could decrease to 13.3%, which would correspond to a \$9.00/bushel U.S. MYA farm price. For comparison, a farm price of \$9.00 per bushel is \$0.50/bushel higher than the projections from the September report. Any combination of harvested area and yield that reduces the stocks-to-use ratio below 10% will provide the opportunity for \$10/bushel soybeans. However, current fundamentals suggest it is unlikely to reach 10% this year because of the large carry-in.

Ending Stocks (Million Bushels)				Stocks-to-Use Ratio			
Harvested Area (million)	Yield (bu/acre)			Harvested Area (million)	Yield (bu/acre)		
	46.5	48	49.5		45	48	49.5
76.5	583	698	814	76.5	14.5%	17.4%	20.2%
75.9	536	650	764	75.9	13.3%	16.2%	19.0%
75.3	490	602	715	75.3	12.2%	15.0%	17.8%

Source: USDA-World Agricultural Outlook Board and Author's Projections.

The takeaway message from Table 19 is that there could be a more bullish story to tell for soybeans. However, the production loss is not likely to be significant enough to mitigate the impact of the 1.005 billion bushel carry-in. The bearish risk for the soybean market is that production might not decline significantly or even increase slightly from the September estimate.

The soybean market needs a production loss to whittle away at the mountain of stocks. Otherwise, the market will muddle through with lower prices to stimulate use and discourage production. The price dynamics needed to reduce soybean stocks to levels achieved before the trade dispute would require multiple crop years and planted area to decline further from that planted in 2019. Mother Nature might be providing a quicker route to lower stocks and higher soybean prices. However, any solution provided by Mother Nature will only last one year as a trend or above trend crop will increase stocks unless the demand side of the balance sheet is improved.

Topic 11. 2020 RP Wheat Crop Insurance Update

Revenue Protection (RP) insurance price protection is based on the July wheat commodity futures prices before planting and before harvest. The price protection ebbs and flows with the market from year-to-year, which means that the safety-net protection can vary significantly from the previous crop-year.

Figure 7 shows the crop insurance projected and harvest prices for the 2014 to 2020 winter wheat crop. Wheat's price protection has fallen from \$6.64 per bushel in 2014 to \$4.59 per bushel for the 2017 wheat crop. Price protection increased to \$5.63 per bushel for the 2018 crop. The large projected ending stocks coupled with flat demand for the 2019 crop has not provided any incentive for the 2020 July wheat futures contract to bid a risk premium in the futures market that might also attract additional planted area.

The 2020 projected price for the winter wheat crop is \$4.86 per bushel. The price protection is \$0.97/bushel less than last year's price. Since the price protection is the higher of the project and harvest price, there is a chance that the insurance protection will increase if prices are higher at harvest.

Figure 7. Wheat Crop Insurance Projected and Harvest Prices for the 2014 to 2020 Crops.

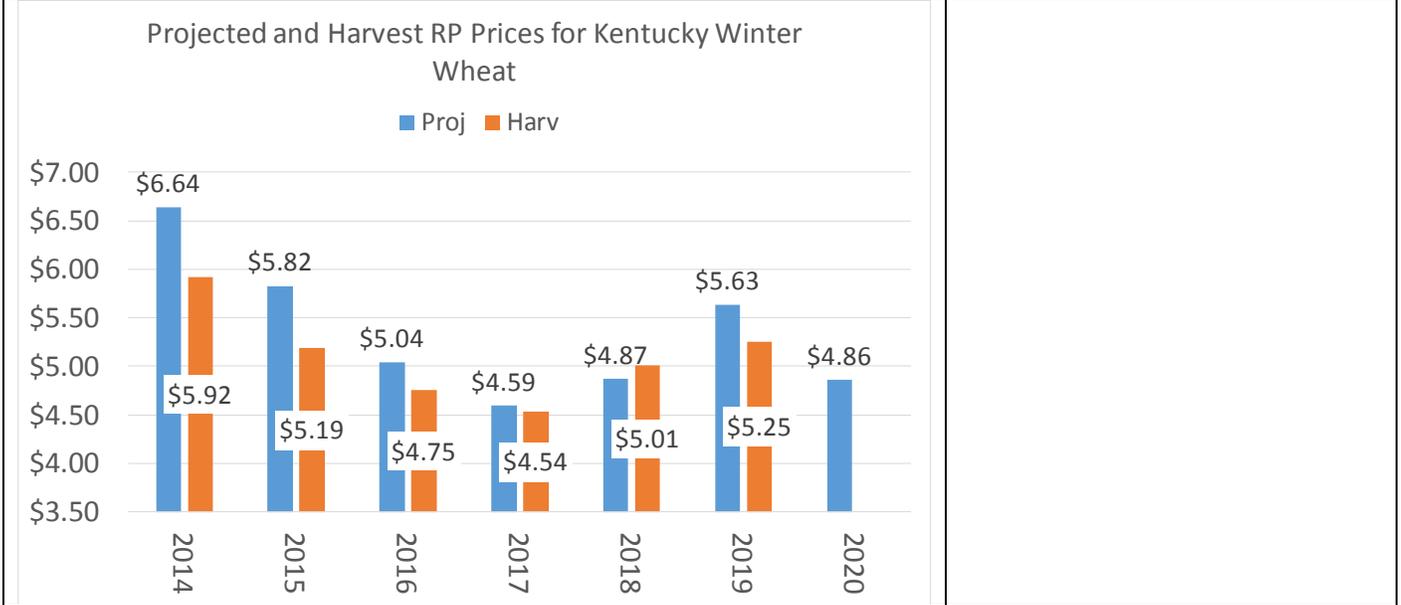


Figure 8. Estimated Risk Protection for 2020 Winter Wheat for the 65% to 85% Crop Insurance Coverage Levels.

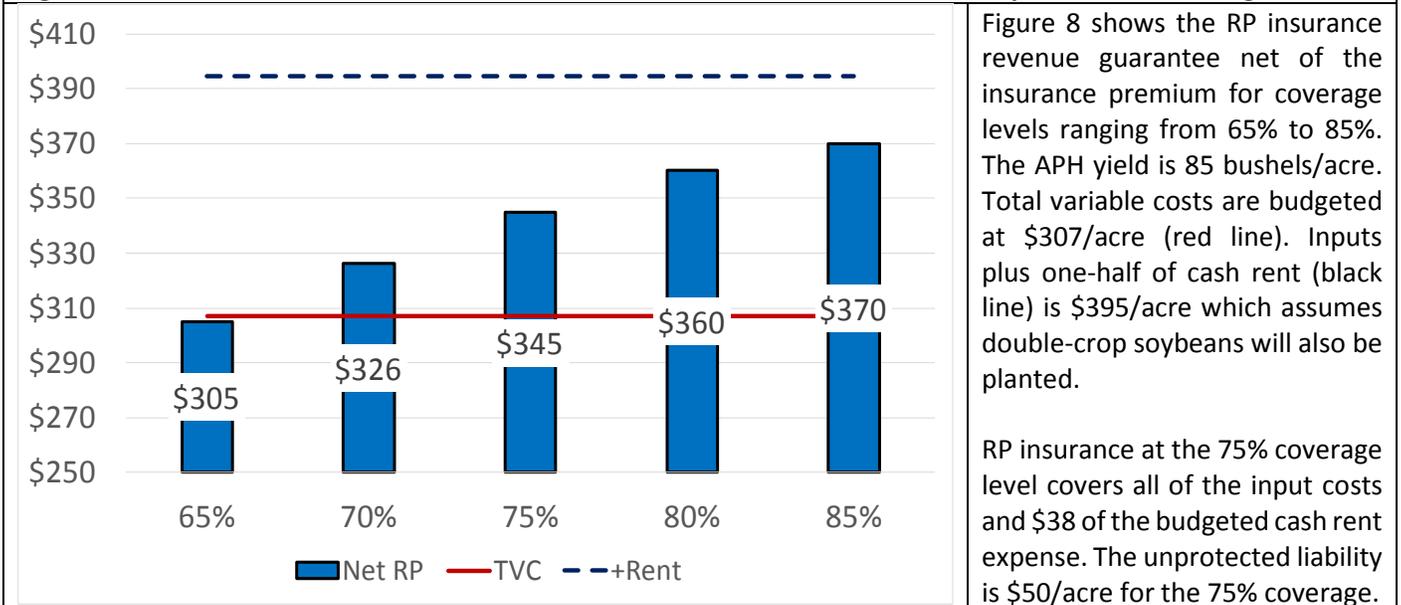


Figure 8 shows the RP insurance revenue guarantee net of the insurance premium for coverage levels ranging from 65% to 85%. The APH yield is 85 bushels/acre. Total variable costs are budgeted at \$307/acre (red line). Inputs plus one-half of cash rent (black line) is \$395/acre which assumes double-crop soybeans will also be planted.

RP insurance at the 75% coverage level covers all of the input costs and \$38 of the budgeted cash rent expense. The unprotected liability is \$50/acre for the 75% coverage.

With every crop insurance decision, managers need to evaluate the working capital available to absorb the revenue impact of lower prices or yields. Managers with limited working capital may want to consider buying a higher coverage level. For example, the 80% coverage level provides net revenue protection of \$360/acre. This coverage insures all of the input costs and covers \$53/acre of the cash rent. The insurance does not cover \$34/acre of the budgeted input costs plus 50% of cash rent.

Managers must make their insurance decisions by September 30, 2019. Contact your crop insurance agent before the deadline to make any changes to your policy.

Topic 12. 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 13. 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.

 <p>College of Agriculture, Food and Environment <i>Agricultural Economics</i></p>	 <p>Todd D. Davis Assistant Extension Professor Extension Economist Crop Economics Marketing & Management</p>	 <p>University of Kentucky College of Agriculture, Food and Environment <i>Cooperative Extension Service</i></p>
<p>Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin. UNIVERSITY OF KENTUCKY, KENTUCKY STATE UNIVERSITY, U.S. DEPARTMENT OF AGRICULTURE, AND KENTUCKY COUNTIES, COOPERATING</p>		