Crops Marketing and Management Update

Grains and Forage Center of Excellence

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Topics in this Month's Update:

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

The November *Crop Production* report tends to be more accurate as the crop has been mostly harvested with the crop remaining to be harvested at physiological maturity. As a result, the statistical models that estimate yields use better data than earlier projections resulting in predictions that are more accurate.

Analysts surveyed before the report expected both the corn and soybean yield to be reduced due to the wet weather and slower harvest throughout the Corn Belt in October. USDA reduced the corn and soybean yields by 1.8 and 1 bushels per acre (BPA), respectively, from the October estimate. USDA's adjustments were more extensive than expected by the analysts surveyed before the report's release.

Table 1 shows the updated corn yield projections for Midwestern and Southern states with the change from the October report and the change from the 2017 corn yield. USDA increased the projected corn yield in Michigan (+3), Missouri (+3), and Ohio (+3) from the previous estimate. Yields in Illinois (-2), Iowa (-6), Minnesota (-7), South Dakota (-6) and Wisconsin (-2) were all reduced from the October projections coinciding with the weather problems and delayed harvest in that region. The Midwest states west of the Mississippi River is projected to have a worse yielding corn crop than last year with Iowa (-4), Kansas (-2), Minnesota (-10), and Missouri (-25) projected to have lower yields (Table 1).

USDA projects the 2018 corn crop in the South to have lower yields than in 2017. Only Virginia (+8), Tennessee (+2), Oklahoma (+14), Kentucky (+1), and Alabama (+9) are projected to have higher yields this year. For some states, the 2018 crop is significantly lower in Texas (-27), North Carolina (-25), Louisiana (-14), and South Carolina (-15) bushels from last year.

Table 1. Projected Corn Yields from the October and November 2018 Crop Production Reports with a Comparison to the 2017 Final Yields.

	Corn Yield (Bu/Acres)				
	Nov 2018 (F)	Oct 2018 (F)	2017	Change from Oct (bu)	Change from 2017 (bu)
	Midwest States				
Illinois	210	212	201	-2	+9
Indiana	194	194	180	+0	+14
Iowa	198	204	202	-6	-4
Kansas	130	130	132	+0	-2
Michigan	166	163	159	+3	+7
Minnesota	184	191	194	-7	-10
Missouri	145	142	170	+3	-25
Nebraska	195	195	181	+0	+14
North Dakota	146	146	139	+0	+7
Ohio	193	190	177	+3	+16
South Dakota	166	172	145	-6	+21
Wisconsin	177	179	174	-2	+3
	Southern States				
Alabama	176	176	167	+0	+9
Arkansas	181	179	183	+2	-2
Georgia	169	170	176	-1	-7
Kentucky	179	180	178	-1	+1
Louisiana	170	170	184	+0	-14
Mississippi	188	188	189	+0	-1
North Carolina	117	117	142	+0	-25
Oklahoma	140	130	126	+10	+14
South Carolina	121	121	136	+0	-15
Tennessee	173	174	171	-1	+2
Texas	113	107	140	+6	-27
Virginia	148	148	140	+0	+8
United States	178.9	180.7	176.6	-1.8	+2.3

Source: *Crop Production* report November 8, 2018.

Table 2. Projected Soybean Yields from the October and November 2018 Crop Production Reports with a Comparison to the 2017 Final Yields.

	Soybean Yield (Bu/Acres)				
	Nov 2018 (F)	Oct 2018 (F)	2017	Change from Oct (bu)	Change from 2017 (bu)
	Midwest States				
Illinois	64	66	58	-2	+6
Indiana	60	60	54	+0	+6
Iowa	58	61	57	-3	+1
Kansas	42	42	38	+0	+5
Michigan	48	49	43	-1	+6
Minnesota	50	50	48	+0	+3
Missouri	46	48	50	-2	-4
Nebraska	61	62	58	-1	+4
North Dakota	36	36	35	+0	+2
Ohio	59	60	50	-1	+10
South Dakota	49	50	43	-1	+6
Wisconsin	49	50	48	-1	+2
	Southern States				
Alabama	44	46	46	-2	-2
Arkansas	50	48	51	+2	-1
Georgia	33	36	42	-3	-9
Kentucky	54	57	53	-3	+1
Louisiana	50	50	54	+0	-4
Mississippi	53	53	53	+0	+0
North Carolina	35	36	40	-1	-5
Oklahoma	31	31	29	+0	+2
South Carolina	30	32	38	-2	-8
Tennessee	48	50	50	-2	-2
Texas	30	32	37	-2	-7
Virginia	44	43	44	+1	+0
United States	52.1	53.1	49.3	-1.0	+2.8

Source: *Crop Production* report November 8, 2018.

Table 2 shows the change in soybean yields in the Midwest and Southern States from the October report and last year. USDA decreased or kept unchanged soybean yields in every Midwest state from the October projections. However, USDA projects 2018 yields to be higher than last year's yield except for Missouri (-4). For the top-five soybean states, Illinois (+6), Indiana (+6), Nebraska (+4), Iowa (+1), and Minnesota (+3) are projected with higher yields than last year. However, USDA reduced yields in Illinois (-2), Iowa (-3), and Nebraska (-1) from the October projections.

USDA reduced soybean yields for the Southern states, excluding Alabama (+2) and Virginia (+1), from the October report. Compared to 2017, soybean yields in the south are projected to be lower except in Kentucky (+1), and Oklahoma (+2).

USDA projects Kentucky's corn yield at 179 BPA, which is 1 bushel above 2017 bu1 1 bushel less than the October report. Kentucky's soybean yield is projected at 54 BPA, which is a 1-bushel increase from 2017 but a 3-bushel reduction from October.

The U.S. corn yield, if realized, would be 2.3 BPA larger than last year's yield, and would be a record if realized (Table 1). The 2018 U.S. soybean yield, if realized, would be 2.8 BPA larger than last year's yield, and would be a record if realized (Table 2).

Topic 2. October *WASDE* Update: U.S. Soybean Stocks are a Record

Analysts surveyed before the report expected USDA to increase ending stocks for soybeans and wheat but projected corn stocks to be lower from the October report. The surprise in the November *WASDE* report was wheat stocks were trimmed from the October report, and corn stocks were reduced more than expected.

The lower projected yield reduced 2018 corn production by 152 million bushels from last month. Production was the only change to projected corn supply, which is currently projected at 12.8 billion bushels (Table 3). USDA

reduced projected feed use by 50 million bushels and exports by 25 million bushels from the October estimates. The total reduction in corn demand is 75 million bushels from last month. The net change in ending stocks is a reduction of 77 million bushels from the previous report.

If realized, 2018-19 corn ending stocks could decline by 404 million bushels from last year to 1.74 billion bushels. If realized, the days of stocks would decline to 42-days or an 11.5% stocks-to-use ratio. The projected U.S. marketing-year average (MYA) farm price would increase to $3.60/bushel (Table 3).

Table 3. U.S. Corn Supply and Use.

	2015-16	2016-17	2017-18 Estimated	2018-19 Projected	Change from 17-18
Planted Area (million)	88.0	94.0	90.2	89.1	-1.1
Harvested Area (million)	80.8	86.7	82.7	81.8	-0.9
Yield (bushels/acre)	168.4	174.6	176.6	178.9	+2.3
	---------- Million Bushels ----------				
Beginning Stocks	1,731	1,737	2,293	2,140	-153
Production	13,602	15,148	14,604	14,626	+22
Imports	67	57	36	50	+14
Total Supply	15,401	16,942	16,934	16,816	-118
Feed and Residual	5,131	5,472	5,298	5,500	+202
Food, Seed & Industrial	6,635	6,883	7,058	7,130	+72
Ethanol and by-products	5,206	5,432	5,605	5,650	+45
Exports	1,898	2,293	2,438	2,450	+12
Total Use	13,664	14,649	14,793	15,080	+287
Ending Stocks	1,737	2,293	2,140	1,736	-404
Stocks/Use	12.7%	15.7%	14.5%	11.5%	-3.0%
Days of Stocks	46	57	53	42	-11
U.S. Marketing-Year Average Price ($/bu)	$3.61	$3.36	$3.36	$3.60	+$0.24

Source:November 2018 WASDE - USDA: WAOB.

Table 4. U.S. Soybeans Supply and Use.

	2015-16	2016-17	2017-18 Estimated	2018-19 Projected	Change from 17-18
Planted Area (million)	82.7	83.4	90.1	89.1	-1.0
Harvested Area (million)	81.7	82.7	89.5	88.3	-1.2
Yield (bushels/acre)	48	52	49.3	52.1	+2.8
	---------- Million Bushels ----------				
Beginning Stocks	191	197	302	438	+136
Production	3,926	4,296	4,411	4,600	+189
Imports	24	22	22	25	+3
Total Supply	4,140	4,515	4,734	5,063	+329
Crushings	1,886	1,901	2,055	2,080	+25
Exports	1,936	2,174	2,129	1,900	-229
Seed	97	105	104	96	-8
Residual	24	34	8	32	+24
Total Use	3,944	4,213	4,296	4,107	-189
Ending Stocks	197	302	438	955	+517
Stocks/Use	5.0%	7.2%	10.2%	23.3%	+13.1%
Days of Stocks	18	26	37	85	+47.7
U.S. Marketing-Year Average Price ($/bu)	$8.95	$9.47	$9.33	$8.60	-$0.73

Source:November 2018 WASDE - USDA: WAOB.

The 1-bushel reduction in soybean yield reduced the 2018 soybean crop by 90 million bushels from last month's projections (Table 4). USDA also increased crushing use by 10 million bushels, which was mostly offset by reductions in seed and residual use. The significant change in use is from USDA lowering projected exports by 160 million bushels to 1.9 billion bushels. This adjustment reflects the significantly slower export pace due to the trade dispute with China.

USDA projects soybean ending stocks to increase to 955 million bushels, up 517 million bushels from 2017-18. The days of soybean stocks is a record 85-day. This massive increase in stocks will weigh on the U.S. MYA price, projected at $8.60/bushel, which is a $0.73/bushel decrease from last year (Table 4).

Table 5. U.S. Wheat Supply and Use.

	2015-16	2016-17	2017-18 Estimated	2018-19 Projected	Change from 17-18
Planted Acres (million)	55.0	50.1	46.0	47.8	+1.8
Harvested Acres (million)	47.3	43.9	37.5	39.6	+2.1
Yield (bushels/acre)	43.6	52.7	46.3	47.6	+1.3
	---------- Million Bushels ----------				
Beginning Stocks	752	976	1,181	1,099	-82
Production	2,062	2,309	1,740	1,884	+144
Imports	113	118	157	140	-17
Total Supply	2,927	3,402	3,078	3,123	+45
Food	957	949	964	970	+6
Seed	67	61	63	69	+6
Feed and Residual	152	156	50	110	+60
Exports	775	1,055	901	1,025	+124
Total Use	1,952	2,222	1,979	2,174	+195
Ending Stocks	976	1,181	1,099	949	-150
Stocks/Use	50.0%	53.2%	55.5%	43.7%	-11.9%
Days of Stocks	183	194	203	159	-43
U.S. Marketing-Year Average Price ($/bu)	$4.89	$3.89	$4.72	$5.10	+$0.38

Source:November 2018 WASDE - USDA: WAOB.

USDA made minor adjustments to the wheat supply and demand estimates. The only change was a 7 million bushel increase in seed use, which resulted in a corresponding reduction in ending stocks.

If realized, wheat stocks could shrink by 150 million bushels from last year and will be at the lowest level since the 2014-15 marketing-year. The days of stocks are projected at 159 days, which is a 43-day reduction in stocks from last year.

The U.S. MYA price is projected to increase by $0.38/bushel to $5.10/bushel for 2018-19.

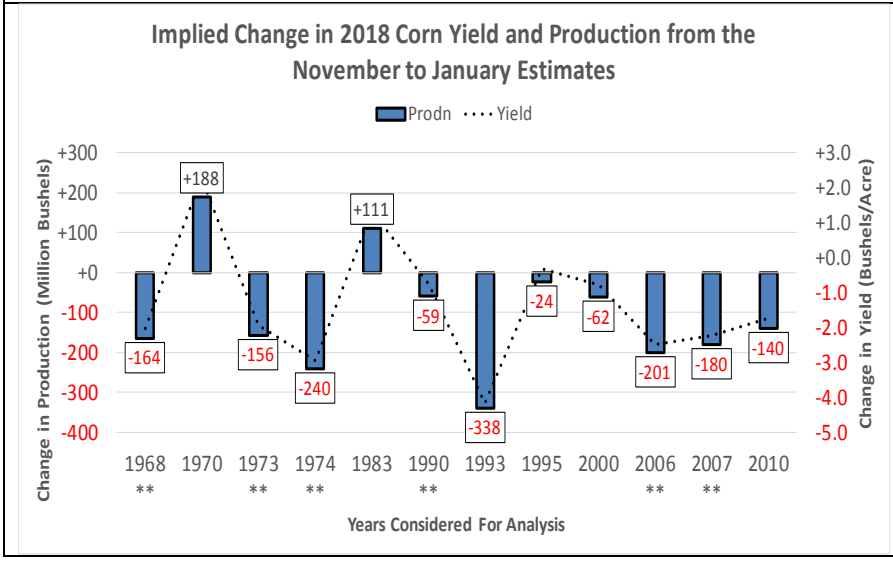
Topic 3. How has USDA's Production Forecast Changed from November to January over the Last Twenty Years? What are the Implications for 2018-19 Marketing-Year Prices?

USDA will not provide updated production estimates until the "final" estimates are released in January. Both the corn and soybean markets are expecting further yield reductions given the reductions in the November estimates.

The *Crop Production Historical Track Record* data from 1965 to 2017 are used to identify the yield changes from November to January for years similar to 2018. The years in Figure 1 with the two asterisks (**) represent years where the estimated yield increased from August to September but was reduced in October and November. Six years (1968, 1973, 1974, 1990, 2006, and 2007) have the same report pattern as the 2018-crop. The other years in Figure 1 only had lower production in the October and November reports regardless of the change in the September estimate.

For the 12 years being compared, only two years had an increase in yield from the November to January estimate. The percentage yield change from those years implies a potential increase in production by 111 and 188 million bushels. For the ten years where yield decreases further in the January report, the average reduction is 156 million bushels (Figure 1).

Figure 1. Implied Changes in 2018 Corn Production Based on Percentage Change from November to January Reports for 1998 to 2017 Crops.



The point of Figure 1 is that the size of the corn crop has decreased from November in 10 of the twelve years similar to 2018.

What are the implications of USDA adjusting the quantity of the 2018 corn crop? A 150, 250, and 350 million bushel decrease in the 2018 corn crop would increase the 2018-19 U.S. MYA farm price by $0.05, $0.15, and $0.20 from the November projection of $3.60 per bushel. In contrast, a 150 million bushel increase would reduce the price by $0.08 per bushel.

Source: USDA NASS. *Crop Production Historical Track Records.* April 2018. *Crop Progress* Report, November 2018

For soybeans, there was only one year since 1965 that had the adjustment pattern of projected yield increasing in September and October but decreasing in November. Given the lack of similar years, the historical changes in estimated yield from November to January for 1998 to 2017 is used to create a distribution of implied yield changes for the 2018 crop.

Figure 2. Implied Changes in 2018 Soybean Production Based on Percentage Change from November to January Reports for 1998 to 2017 Crops.

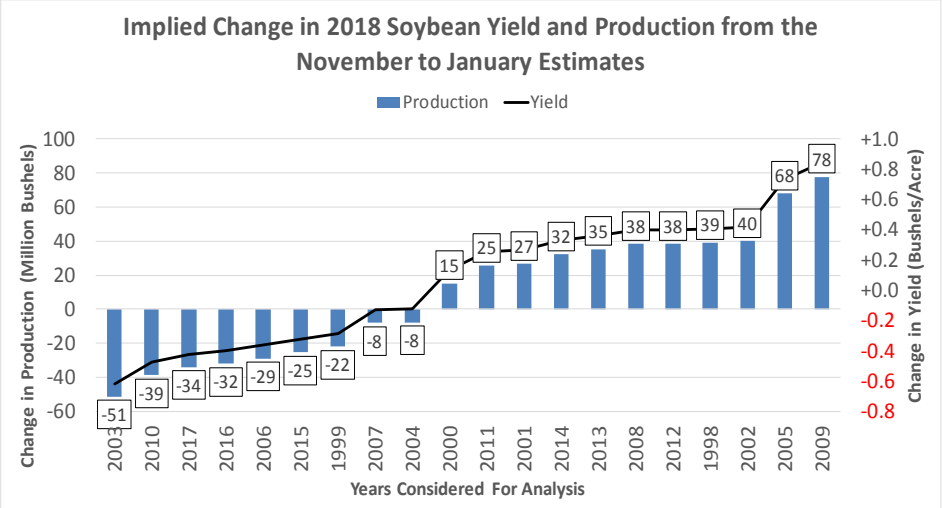


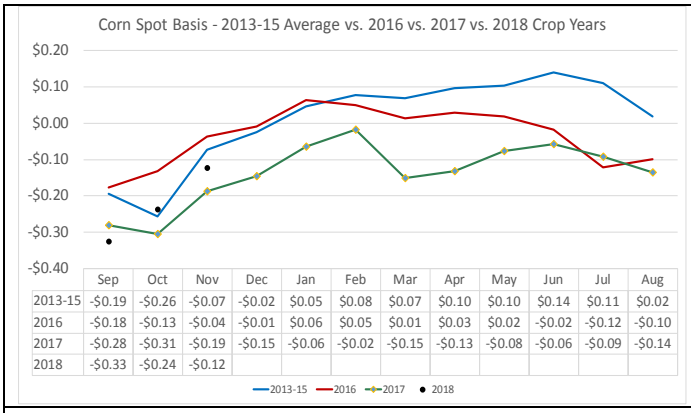
Figure 2 shows that USDA has reduced the estimated soybean yield in January in 9 of the last twenty years. The average production decrease for the years when yield is lowered in January is 28 million bushels. The average production increase for the 11 years is 40 million bushels. The largest implied increase is 78 million bushels (similar to 2009) while the largest implied reduction is 51 million bushels (similar to the 2003 crop).

Source: USDA NASS. *Crop Production Historical Track Records.* April 2018. *Crop Progress* Report, November 2018

If USDA increases the soybean crop by 25 or 50 million bushels, then the U.S. marketing-year average price could decline by $0.10 and $0.15 per bushel from the November estimate of $8.60 per bushel. However, if the 2018 crop is reduced by 25 or 50 million bushels, then the price could increase by $0.05 and $0.15 per bushel, respectively from the November 2018 forecast.

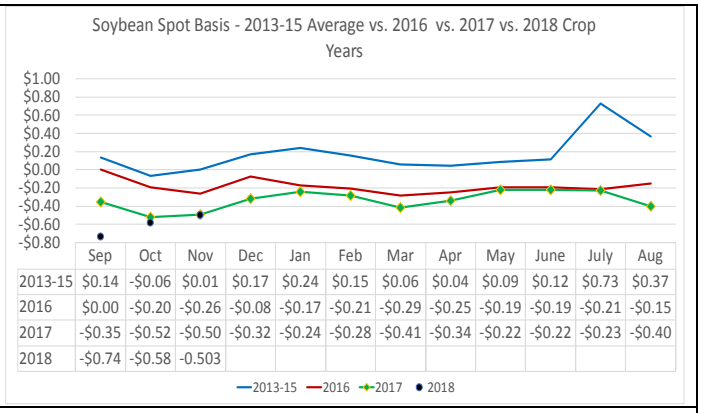
Topic 4. 2018 Corn, Soybean, Wheat Basis vs. Previous Years – Implications for Storage

Figure 3, Figure 4, and Figure 5 show the monthly average corn, soybean and wheat spot basis, respectively, for twelve Western Kentucky markets. For each figure, the blue line represents the average basis for the 2013-15 crop years, and the red line is the basis for the 2016 crop. The green line is the 2017 basis while the black dots represent the 2018 basis.



	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
2013-15	-$0.19	-$0.26	-$0.07	-$0.02	$0.05	$0.08	$0.07	$0.10	$0.10	$0.14	$0.11	$0.02
2016	-$0.18	-$0.13	-$0.04	-$0.01	$0.06	$0.05	$0.01	$0.03	$0.02	-$0.02	-$0.12	-$0.10
2017	-$0.28	-$0.31	-$0.19	-$0.15	-$0.06	-$0.02	-$0.15	-$0.13	-$0.08	-$0.06	-$0.09	-$0.14
2018	-$0.33	-$0.24	-$0.12									

Figure 3. Western Kentucky Corn Spot Market Basis Appreciation from September to August for 2013 to 2018 Crop Years.
Basis Calculated on November 9, 2018

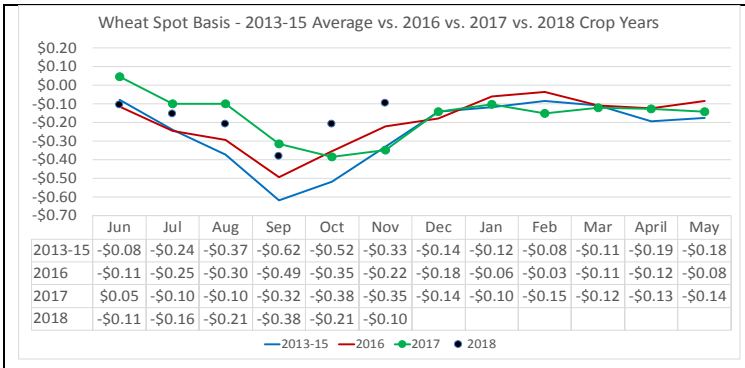


	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
2013-15	$0.14	-$0.06	$0.01	$0.17	$0.24	$0.15	$0.06	$0.04	$0.09	$0.12	$0.73	$0.37
2016	$0.00	-$0.20	-$0.26	-$0.08	-$0.17	-$0.21	-$0.29	-$0.25	-$0.19	-$0.19	-$0.21	-$0.15
2017	-$0.35	-$0.52	-$0.50	-$0.32	-$0.24	-$0.28	-$0.41	-$0.34	-$0.22	-$0.22	-$0.23	-$0.40
2018	-$0.74	-$0.58	-0.503									

Figure 4. Western Kentucky Soybean Spot Market Basis Appreciation from September to August for 2013 to 2018 Crop Years.
Basis Calculated on November 9, 2018

The corn basis is -$0.12/bushel under the DEC corn contract with the typical strengthening in basis after harvest. Last year, the corn basis appreciated from October to February by $0.29/bushel, which is $0.11/bushel more than the appreciation in basis for the 2016 corn crop (Figure 3).

The average soybean basis, as of November 9, was -$0.50/bushel under the November 2018 soybean contract. The basis is the same as the 2017 basis and $0.24 per bushel wider than the 2016 basis (Figure 4). Last year, the basis appreciated $0.28/bushel from October to January, but the 2016 crop's basis had a maximum appreciation in basis of $0.12/bushel in December. Basis appreciation will be important for positive returns to soybean storage.



	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May
2013-15	-$0.08	-$0.24	-$0.37	-$0.62	-$0.52	-$0.33	-$0.14	-$0.12	-$0.08	-$0.11	-$0.19	-$0.18
2016	-$0.11	-$0.25	-$0.30	-$0.49	-$0.35	-$0.22	-$0.18	-$0.06	-$0.03	-$0.11	-$0.12	-$0.08
2017	$0.05	-$0.10	-$0.10	-$0.32	-$0.38	-$0.35	-$0.14	-$0.10	-$0.15	-$0.12	-$0.13	-$0.14
2018	-$0.11	-$0.16	-$0.21	-$0.38	-$0.21	-$0.10						

Figure 5. Western Kentucky Wheat Spot Market Basis Appreciation from June to May for 2013 to 2018 Crop Years.
Basis Calculated on November 9, 2018

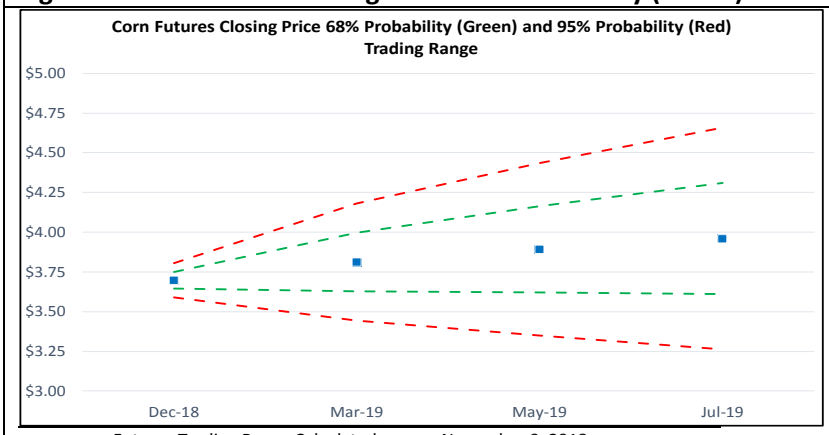
The average appreciation in wheat basis was $0.15/bushel from harvest to February for the 2013-15 crop years. The average appreciation in basis for the 2016 crop year was $0.21/bushel from harvest to February. Maximum appreciation was $0.00/bushel in January for the 2017 crop (Figure 5).

The 2018 wheat basis is currently at -$0.10/bushel under the DEC contract. The seasonal narrowing in basis will improve the returns to wheat storage with the best basis typically in January or February.

Topic 5. Projected Corn, Soybean, and Wheat Futures Trading Ranges to July 2019

Figures 6–8 provide the projected futures price trading range, by futures contract month, based on the contracts' volatility for the previous 21-day period. The green lines represent the range that describes the 68% probability of the projected trading range with the red line representing 95% likelihood of the expected trading range. Notice how these projections fan out for the contracts that will expire later in 2019. That is because there is more time until expiration; thus, there is a wider potential trading range for these deferred futures contracts.

Figure 6. Corn Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



Futures Trading Range Calculated on: November 9, 2018

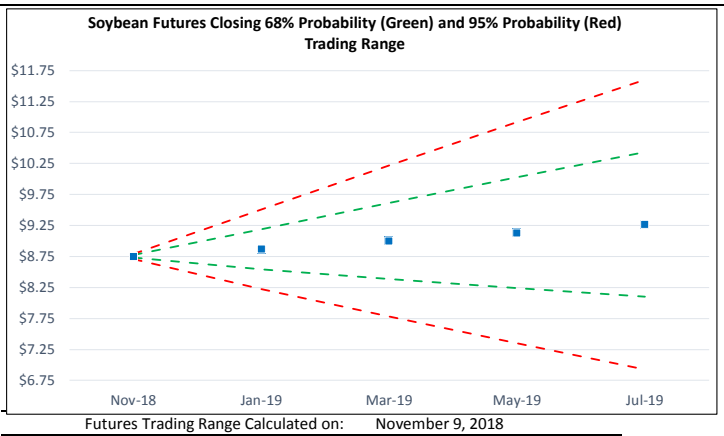
Trading range calculated on November 9, 2018, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on November 9, 2018, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Figure 6 provides the probabilistic trading range for the corn futures contracts from December 2018 to July 2019. There is a 68% probability that the December 2018 corn contract will trade between $3.64 and $3.75 and a 95% probability that the December 2018 corn contract will trade between $3.59 and $3.80 (Figure 6).

Managers who are thinking about managing price risk for the stored 2018 corn crop should notice that the July 2019 contract has a 68% probability of trading between $3.61 and $4.31 per bushel (Figure 6).

Figure 7 provides the probabilistic trading range for soybean futures contracts from November 2018 to July 2019. The March 2019 soybean futures have a 68% probability of trading between $8.39 to $9.61 with a 95% likelihood of trading between $7.78 and $10.22 (Figure 7). The July 2019 futures contract has a 68% probability of trading between $8.10 and $10.43 per bushel (Figure 7). The increased volatility in the soybean market contributes to this wide range in possible soybean prices for the deferred soybean futures contracts.

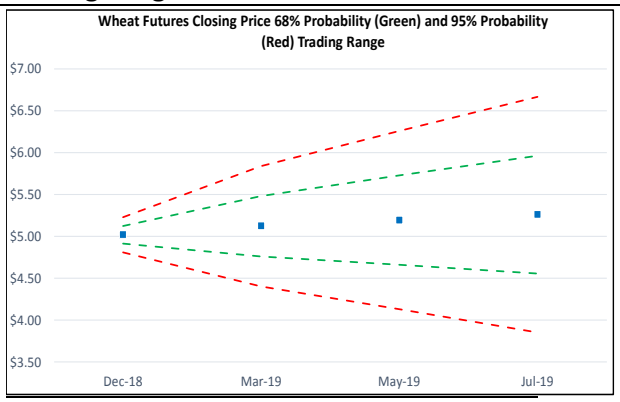
Figure 7. Soybean Futures Closing Price 68% Probability (Green) and 95% Probability (Red) Trading Range.



Futures Trading Range Calculated on: November 9, 2018

Trading range calculated on November 9, 2018, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on November 9, 2018, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

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



Futures Trading Range Calculated on: November 9, 2018

Trading range calculated on November 9, 2018, using the average volatility of the previous 21-day period. The 68% probability range is the closing futures price on November 9, 2018, plus and minus one standard deviation. The 95% probability range is the closing price plus and minus two standard deviations.

Figure 8 provides the probabilistic trading range for wheat futures contract from December 2018 to July 2019 contracts. The December 2018 wheat futures contract has a 68% probability of trading between $4.91 and $5.13 per bushel while the March 2019 contract has a 68% chance of trading between $4.76 and $5.48/bushel (Figure 8). The wheat market is not as impacted by tariffs and trade uncertainty, so any production problem domestic or worldwide would be supportive of higher prices. The July 2019 wheat contract has a 68% chance of trading between $4.56 and $5.96/bushel (Figure 8), which should be monitored for 2019 pre-harvest risk management.

Topic 6. 2018 Corn, Soybean, and Wheat Risk Management Opportunities for February Delivery

Managers storing corn, soybeans, and wheat into 2019 may want to consider if the futures or options markets are providing opportunities to protect prices at profitable levels. Table 6 compares the risk protection provided by hedging (or Hedge-to-Arrive contracts), forward contracts, or with put options for corn for varying harvested yields. Each table illustrates the break-even price that covers total inputs, rent, overhead, family living, and storage. The March 2019 corn futures contract and put options on the March 2019 corn contract are compared for February 2019 delivery. The similar price risk tools are evaluated for soybeans (Table 7) and wheat (Table 8) to measure the potential profitable returns over total variable costs, inputs, overhead, family living, and on-farm storage.

Table 6. Western Kentucky Corn Storage Risk Management to February 2019 for Various Yield Objectives.

Storage Hedge: February 2019	Corn			
Yield	170	180	190	200
TVC+Rent+Overhead+Family Living ($/acre)	$670	$670	$670	$670
TVC+Rent+Overhead+Family Living ($/bu)	$3.94	$3.72	$3.53	$3.35
TVC+Rent+OH+Family+$0.31 storage ($/bu)	$4.25	$4.03	$3.84	$3.66
Hedge @ $3.81+$-0.02 basis = $3.79	-$0.46	-$0.24	-$0.04	+$0.13
Forward Contract at $3.81	-$0.45	-$0.23	-$0.03	+$0.14
Put: $3.80 strike @$0.114 = $3.67 floor	-$0.59	-$0.37	-$0.17	+$0.01
Strategies Evaluated on:	November 9, 2018			

Those farms that produced more than 190-bushel corn may be able to lock-in a profit above input costs and cash rent. Farms with lower expected yields do not have profitable risk management opportunities at current prices (Table 6).

Table 7 presents risk management alternatives for storing soybeans from harvest to February 2019. The example varies the harvested yield to illustrate how the break-even price over inputs, rent, overhead, family living, and storage changes with yield.

Table 7. Western Kentucky Soybean Storage Risk Management to February 2019 for Various Yield Objectives.

Storage Hedge: February 2019	Soybeans			
Yield	45	55	65	75
TVC+Rent+Overhead+Family Living ($/acre)	$528	$528	$528	$528
TVC+Rent+Overhead+Family Living ($/bu)	$11.73	$9.60	$8.12	$7.04
TVC+Rent+OH+Family+$0.32 storage ($/bu)	$12.05	$9.92	$8.44	$7.36
Hedge @ $9.00 + $-0.28 basis = $8.72	-$3.33	-$1.20	+$0.28	+$1.36
Forward Contract at $8.69	-$3.36	-$1.22	+$0.25	+$1.34
Put: $9.00 strike @$0.315 = $8.405 floor	-$3.65	-$1.52	-$0.04	+$1.05
Strategies Evaluated on:	November 9, 2018			

The example illustrates that a yield of 65-bushels is needed to lock in a profit using the futures market. Table 7 also illustrates that lower yields will be challenged to find profitability at current prices and the assumed costs.

Table 8. Western Kentucky Wheat Storage Risk Management to February 2019 for Various Yield Objectives.

Storage Hedge: February 2019	Wheat			
Yield	65	75	85	95
TVC+Rent+Overhead+Family Living ($/acre)	$476	$476	$476	$476
TVC+Rent+Overhead+Family Living ($/bu)	$7.32	$6.35	$5.60	$5.01
TVC+Rent+OH+Family+$0.42 storage ($/bu)	$7.74	$6.77	$6.02	$5.43
Hedge @ $5.12 + $-0.15 basis = $4.97	-$2.77	-$1.79	-$1.05	-$0.46
Forward Contract at $5.00	-$2.74	-$1.77	-$1.02	-$0.43
Put: $5.10 strike @$0.205 = $4.745 floor	-$3.00	-$2.02	-$1.28	-$0.69
Strategies Evaluated on:	November 9, 2018			

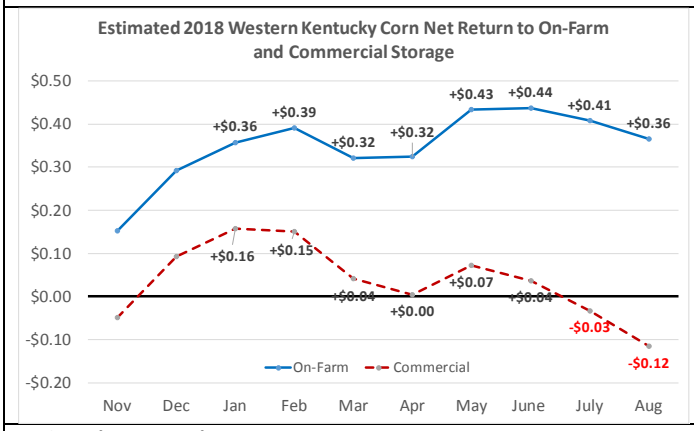
A wheat yield of 95-bushels is not large enough to lower the per-bushel costs to a profitable level to hedge with the futures market. Those that harvested lower yields will be challenged to find profitability at current prices and the assumed costs.

Topic 7. Projected Return to Storage for Corn, Soybeans, and Wheat

Figure 9 provides projected returns to on-farm (blue) and commercial corn storage (red) from harvest to the following August. The return to on-farm storage is calculated as the deferred price less the harvest price less the monthly opportunity cost. The harvest price for corn is assumed at $3.34 per bushel. The annual interest rate is 5.5%, which gives a monthly interest cost of $0.015/bushel for corn. The corn futures complex closing prices on November 9, 2018, and the average monthly spot basis are used to forecast the deferred cash prices. The return to on-farm storage is the return to the farm's drying and storage system.

Figure 9 identifies two potential marketing periods – February 2019 and May 2019 – for corn stored on-farm. Given the current futures carry and average basis, the return in February is $0.39/bushel with a $0.43/bushel return in May. The average basis for the last five years provides a conservative forecast as years with strong use is expected to have a stronger basis after harvest.

Figure 9. Projected Return to Storage for On-Farm and Commercial for Corn.

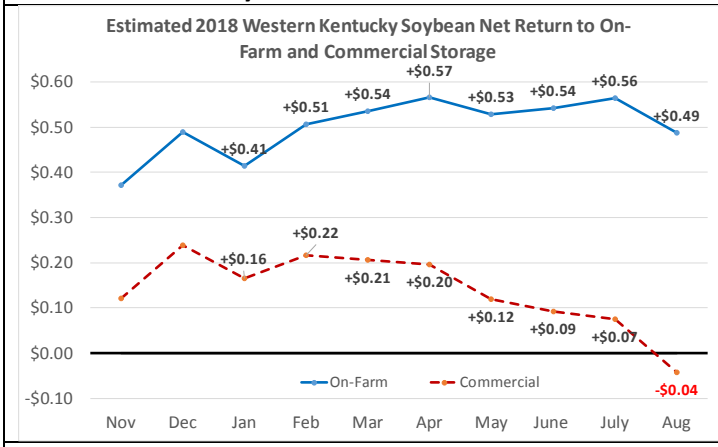


Projected on November 9, 2018.

The return to commercial corn storage is the deferred price less the harvest price, interest costs, and the commercial storage fees. Commercial storage is assumed at $0.20/bushel from harvest to January 31, with an additional $0.04/bushel per month starting in February. Given the conservative price forecast, returns from commercial storage for corn is projected to provide the largest return in January at $0.16/bushel with returns declining after January (Figure 9). A stronger than average basis could increase spot prices by $0.10 to $0.25 per bushel in January to May 2019, which would increase the return to both on-farm and commercial corn storage.

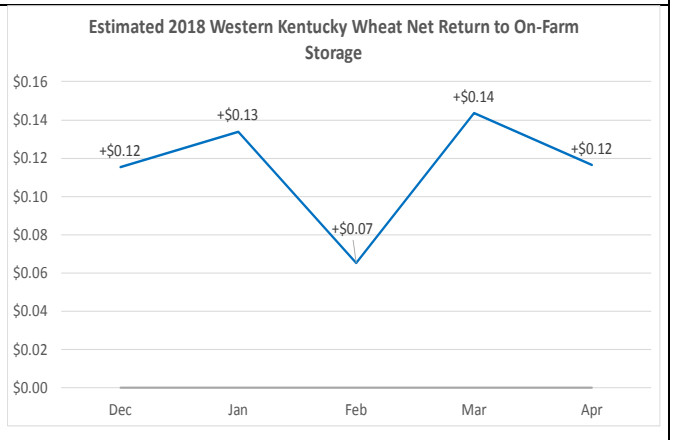
The projected on-farm (red) and commercial (blue) storage returns for soybeans are presented in Figure 10. The harvest price for soybeans is projected at $8.07 per bushel with a monthly interest cost of $0.037/bushel. The implied basis from cash forward contract bids posted on DTN is used in forecasting the deferred spot prices. This implied basis is used as a conservative approach given the uncertainty in trade and the impact on basis. Figure 10 identifies potential return to storage of $0.51/bushel in February 2019 with greater returns if held to April 2019 for stored soybeans on-farm. Given the current futures carry and wide basis, the return in April is $0.57/bushel. Even with a wide basis, the futures market carry of $0.51/bushel from the NOV to JUL contracts, on November 9, signals the soybean market's preference for storing soybeans into 2019.

Figure 10. Projected Return to Storage for On-Farm and Commercial for Soybeans.



Projected on November 9, 2018.

Figure 11. Projected Return to On-Farm Storage for Wheat.



Projected on November 9, 2018.

The return to commercial soybean storage is the deferred price less the harvest price, interest costs, and the commercial storage fees. Commercial storage is assumed at $0.25/bushel from harvest to January 31, with an additional $0.04/bushel per month starting in February. Commercial storage to February 2019 could provide a return of $0.22 per bushel.

Figure 11 provides the return to on-farm storage for wheat. The harvest price is $4.75 per bushel with a monthly interest cost of $0.021 per bushel. The futures carry, and average spot basis currently projects a $0.13/bushel return in January with the potential return of $0.14/bushel in March 2019.

Topic 8. Pre-Harvest 2019 Corn, Soybean, and Wheat Risk Management Opportunities

Tables 9-11 analyze the effectiveness of using hedging with futures or put options in protecting revenue that covers total input costs, cash rent, overhead and family living for corn, soybeans, and wheat in 2019.

Table 9 presents risk management alternatives for Western Kentucky corn production for 2019. 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 $3.73/bushel assuming a -$0.30/bushel harvest-time basis. The second alternative is to establish a price floor at $3.46/bushel by buying a put option with a $4.00 strike price that costs $0.24.

Table 9 reminds managers that the corn market currently offers risk management opportunities for the 2019 crop if the farm routinely harvests corn yields above 180 bushels, as hedging with futures may lock in a positive return over input costs, rent, overhead, and family living.

Table 9. Risk Management Alternatives for 2019 Western Kentucky Corn for Various Yield Objectives.

Yield	160	170	180	190	200	210
TVC+Rent+Overhead+Family Living ($/acre)	$670	$670	$670	$670	$670	$670
TVC+Rent+Overhead+Family Living ($/bu)	$4.19	$3.94	$3.72	$3.53	$3.35	$3.19
Hedge @ $4.055+ -$0.30 basis = $3.725	-$0.46	-$0.22	+$0.00	+$0.20	+$0.38	+$0.53
Put: $4.00 strike @$0.24 = $3.46 floor	-$0.73	-$0.48	-$0.26	-$0.07	+$0.11	+$0.27
Strategies Evaluated on:	November 9, 2018					

Those farms that routinely produce 200-bushel corn may be able to lock-in a price floor that covers all of the budgeted costs by purchasing a put option (Table 9). A price floor at $3.46 locks in a $0.11/bushel return and allows farmers to benefit if the futures price increases.

Table 10 illustrates the potential of using risk management products to lock in a profitable return on input costs, cash rent, overhead and family living for 2019 soybeans if managers routinely obtain yields of 65 bushels/acre or more. Managers that are comfortable with hedging with futures or using HTA contracts may be able to lock in a profit of $0.74/bushel assuming a harvest-time basis of -$0.50/bushel under the November 2019 contract. Put options could be used to establish a price floor at $8.30/bushel. The flexibility of options to establish a floor and to benefit from higher prices may be a good alternative for managers to consider for bushels planned to be sold at harvest (Table 10).

Table 10. Risk Management Alternatives for 2018 Western Kentucky Soybeans for Various Yield Objectives.

Yield	45	55	65	75	85
TVC+Rent+Overhead+Family Living ($/acre)	$528	$528	$528	$528	$528
TVC+Rent+Overhead+Family Living ($/bu)	$11.73	$9.60	$8.12	$7.04	$6.21
Hedge @ $9.37 + -$0.50 basis = $8.87	-$2.87	-$0.73	+$0.74	+$1.83	+$2.65
Put: $9.40 strike @$0.593 = $8.307 floor	-$3.43	-$1.29	+$0.18	+$1.27	+$2.10
Strategies Evaluated on:	November 9, 2018				

The soybean market is not offering risk management opportunities for yields less than 65 bushels/acre. Given the uncertainty in the soybean market, managers should monitor opportunities to manage risk when they are available.

Table 11. Risk Management Alternatives for 2019 Western Kentucky Wheat for Various Yield Objectives.

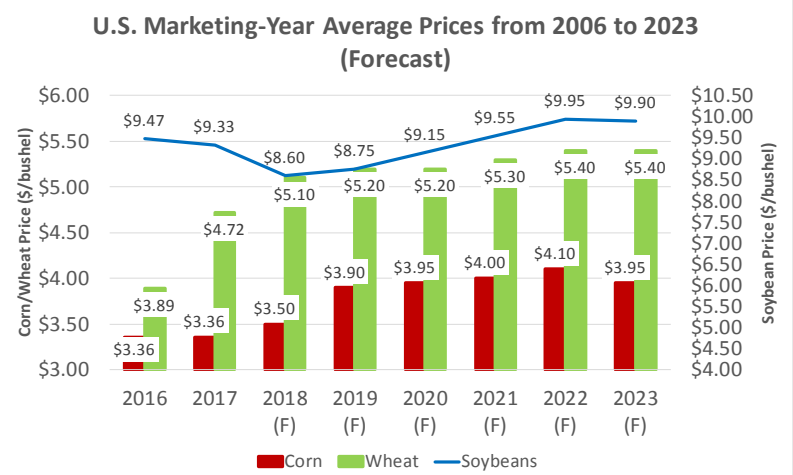
Yield	50	60	70	80	90
TVC+50% Rent+Overhead+Family Living ($/acre)	$476	$476	$476	$476	$476
TVC+50% Rent+Overhead+Family Living ($/bu)	$9.52	$7.93	$6.80	$5.95	$5.29
Hedge @ $5.26 - $0.15 basis = $5.11	-$4.41	-$2.82	-$1.69	-$0.84	-$0.18
Forward Contract at $5.24	-$4.28	-$2.70	-$1.56	-$0.71	-$0.05
Put: $5.60 strike @$0.395 = $5.055 floor	-$4.68	-$3.09	-$1.96	-$1.11	-$0.45
Strategies Evaluated on:	November 9, 2018				

Table 11 reports the potential of using risk management to lock in a profitable return on inputs, one-half of cash rent, overhead, and family living expense for 2019 winter wheat. Those who typically harvest more than 90-bushel wheat may be able to lock in a profitable return by hedging with the July 2019 wheat contract. Forward contracts may be a good alternative.

Topic 9. USDA Releases Preliminary Long-Term Baseline Projections – Implications for Corn, Soybeans, and Wheat

USDA released their preliminary long-term *USDA Agricultural Projections to 2028* on November 2, 2018. This report is based on economic models and does not incorporate farmers' surveys on the planned planted area over the next decade. The report is primarily used for budgetary guidance for programs administered by USDA. This report does tell an interesting story about long-term prices for corn, soybeans, and wheat. Figure 12 reports the projected marketing-year average farm price for corn (red), wheat (green), and soybeans (blue) for the 2018 to 2023 marketing-years. USDA is assuming trend-yields over the next decade for all crops.

Figure 12. Projected U.S. Marketing-Year Average Farm Prices for Corn, Soybeans, and Wheat from 2018 to 2023.



Source: Preliminary USDA Agricultural Projections to 2028. Released November 2, 2018

For corn, the assumption is a farm price below $4 per bushel until 2021. Wheat is projected to have a farm price that will gradually improve to $5.40 per bushel through a combination of trend yields and wheat area capped at 51 million acres. Soybeans are projected to remain below $9 per bushel until the combination of significantly reduced planted area, trend yields, and slow growth in use whittles away the current mountain of soybeans in ending stocks. Figure 12 suggests that tight or negative profit margins are likely for the next decade barring a weather event or demand shock that pushes prices higher.

Let us look at USDA's supply and demand projections for the 2019-20 marketing-year for corn, soybeans, and wheat compared to the projections for the 2018-19 marketing-year from the November report. The first item that is remarkable is the reduction in soybean planted area of 6.6 million acres from the 2018-19 marketing-year. Most of the lost soybean area will be planted in corn (+2.9 million acres) or wheat (+3.2 million acres). USDA assumes trend yields, which would be a 2.4-bushel reduction for corn, 2.1-bushel reduction for soybeans, and a 0.2-bushel increase for wheat from the 2018 yields.

Corn and wheat are currently projected to have a smaller carry-in from 2018, which will absorb the increase in production. For corn, the 2019 corn crop is projected at 14.9 billion bushels, which is a 306 million bushel increase from 2018. Still, USDA projects the 2019 corn supply to be slightly less than 2018's supply. Similarly, the 2019 wheat crop is projected to be 176 million bushels larger than 2018. However, wheat's supply is projected to increase by 16 million bushels due to the smaller carry-in.

Use for corn is projected to increase from the 2018-19 marketing-year with domestic use projected to increase by 135 million bushels, but exports are forecasted to fall slightly in 2019. Because of the return to trend yields and strong use, USDA projects ending stocks to continue to decline to 1.5 billion bushels. As corn stocks decline, the U.S. marketing-year average price is projected to increase to $3.90/bushel for 2019-2020.

Wheat use is also projected to increase slightly in 2019-2020 with total demand forecasted up by 39 million bushels. The combination of a slight increase in supply that is less than the increase in use will reduce stocks slightly form 2018. The reduction in stocks will support a slightly higher wheat price of $5.20/bushel for 2019-2020.

The projections for soybeans tell a story of the reduced area and trend yields needed to reduce stocks over several years. Table 12 shows that a 6.6 million reduction in the planted area combined with trend yields could reduce soybean production by 510 million bushels from the 2018 crop. If that would occur, the smaller 2019 crop would about offset the larger carry-in from 2018. The carryout would keep the 2019 soybean supply about the same level as the 2018 supply.

The onus then shifts to soybean use with an assumption of exports increasing by 175 million bushels from the current marketing year. If exports were to increase as projected, then soybean stocks would decline by 169 million bushels to a still large 793 million bushels.

Table 12. Projected Balance Sheet for 2019-20 Corn, Soybeans, and Wheat and Change from the 2018-19 Marketing-Year.

	Corn	Change from 2018-19	Soybeans	Change from 2018-19	Wheat	Change from 2018-19
			Million Acres			
Planted	92.0	+2.9	82.5	-6.6	51.0	+3.2
Harvested	84.6	+2.8	81.8	-6.5	43.1	+3.5
Yield (bu/acre)	176.5	-2.4	50.0	-2.1	47.8	+0.2
			Million Bushels			
Beginning Stocks	1,736	-404	955	+517	949	-150
Production	14,932	+306	4,090	-510	2,060	+176
Imports	50	+0	25	+0	130	-10
Total Supply	16,718	-98	5,070	+7	3,139	+16
Domestic Use	12,765	+135	2,202	-6	1,163	+14
Exports	2,425	-25	2,075	+175	1,050	+25
Total Use	15,190	+110	4,277	+169	2,213	+39
Ending Stocks	1,528	-208	793	-162	926	-23
Days of Stocks	37	-5	68	-17	153	-7
U.S. Average Farm Price	$3.90	+$0.30	$8.75	+$0.15	$5.20	+$0.10

Source:November 2018 WASDE - USDA: WAOB. Preliminary Baseline Projections November 2018.

Source: Preliminary USDA Agricultural Projections to 2028. Released November 2, 2018. November 2018 WASDE.

The soybean market will require multiple years to unwind the build-up in stocks. Above-trend yields would increase the duration of this process. Similarly, exports increasing at a slower pace would dampen the reduction in stocks and keep prices lower longer than projected by the economic models.

USDA assumes current policies in these projections. The long-term impact of trade disputes is a shift of acreage out of soybeans until stocks are reduced to a level that would support a higher price.

Secretary Perdue reminds farmers that the Market Facilitation Program (MFP) payments are limited to the 2018 crop and managers will need to respond to market signals. The long-term forecast suggests that the road to higher commodity prices is a delicate balance of limited production growth that allows increasing demand to reduce stocks. Improved exports would make this road less rocky and uncertain for farmers managing tight margins and reduced working capital.

Topic 10. How is the RP Crop Insurance and ARC-CO Safety-Net Performing in Kentucky?

The harvest price discovery period for revenue protection (RP) insurance ended on October 31, 2018. For corn and soybeans, the harvest price is the average closing price of the DEC and NOV futures contracts, respectively, for October. This year's harvest prices are $3.68 and $8.60, respectively, for corn and soybeans.

Table 13 calculates the yield loss needed to trigger an indemnity for the varying RP insurance coverage level. Recall that RP provides a revenue guarantee that is the larger of the February projected price or the October harvest price. The February price was $3.96 and $10.16 for corn and soybeans. Because the harvest price is below the projected price, a revenue indemnity is triggered with a yield loss that is less than the coverage level percentage. For example, corn RP insurance at the 80% coverage level needs a yield that is 86.1% of the APH yield to trigger an indemnity. If the APH yield is 175 bushels/acre, a harvested yield less than 150.7 bushels would trigger an indemnity (175 x 86.1% =

150.7). At the 85% coverage level, the same APH yield would trigger an indemnity with a harvest yield of 160.1 bushels/acre (175 x 91.5% = 160.1).

Since the harvest price for soybeans is significantly lower than the projected price, indemnities are triggered with less percentage yield loss than for corn. For soybeans insured at the 80% coverage level and an APH yield of 55 bushels/acre, an indemnity is triggered when the harvested soybean yield is less than 51.9 bushels (55 x 94.5% = 51.9). Many farmers purchase RP insurance for soybeans at lower coverage levels. For the 55-bushel APH yield, a yield of 45.5 (55 x 82.7%) is needed to trigger an indemnity. While soybeans have less variable risk than corn, there may be indemnities triggered in 2018 at the higher coverage levels for, the higher coverage levels (Table 13).

Table 13. Yield Loss Needed to Trigger an Indemnity for 2018 Corn and Soybean Revenue Protection Insurance.

	% of APH Yield Needed to Trigger an Indemnity for RP Insurance by Coverage Level						
	55%	**60%**	**65%**	**70%**	**75%**	**80%**	**85%**
Corn	59.2%	64.6%	69.9%	75.3%	80.7%	86.1%	91.5%
Soybeans	65.0%	70.9%	76.8%	82.7%	88.6%	94.5%	100.4%

The other component of the revenue safety net is payments received from the ARC-CO or PLC farm program. Most corn and soybean base acres were enrolled in the ARC-CO program as those programs had the potential to make larger payments early in the farm bill period. Wheat acres were expected to benefit more from PLC given the projected lower prices and potential for larger payments than for ARC-CO. This section will focus on ARC-CO and why some counties received different payments than adjacent counties for the 2014 to 2017 crops.

Figures 13-15 show the Olympic Average Price (Black line), the realized U.S. marketing-year average price, and the maximum county yield as a percentage of the county's Olympic Average Yield that would equal a zero ARC-CO payment. Remember that a county yield that is larger than the county's Olympic Average yield could reduce or eliminate an ARC-CO payment even if the marketing-year average price is lower than the Olympic Average Price. The blue columns represent the maximum amount the county yield can be above the Olympic Average yield and still receive payment.

Figure 13. ARC-CO Corn Threshold Yields as a Percentage of the County Olympic Average Yield.

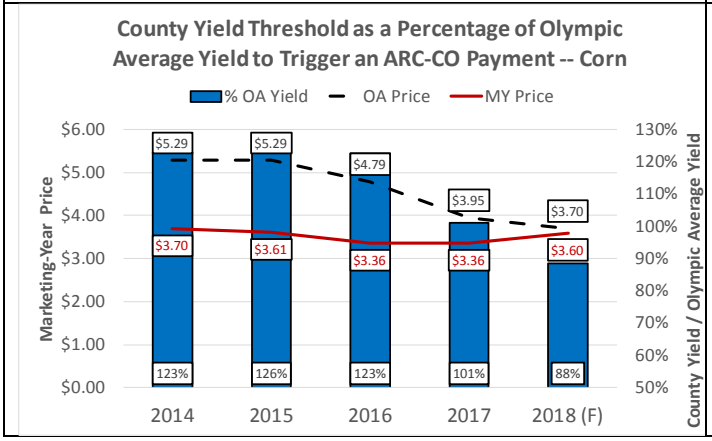
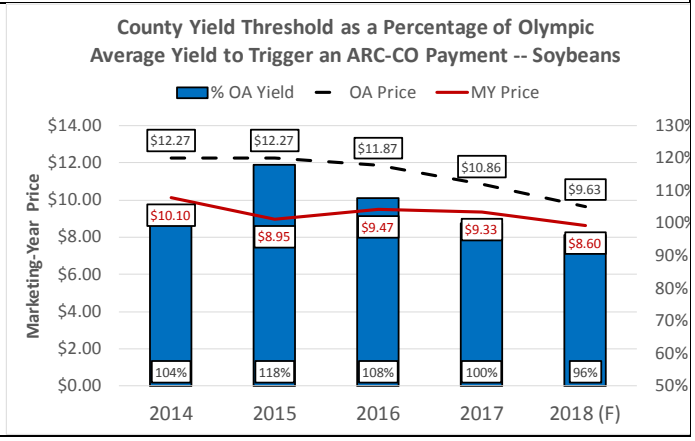


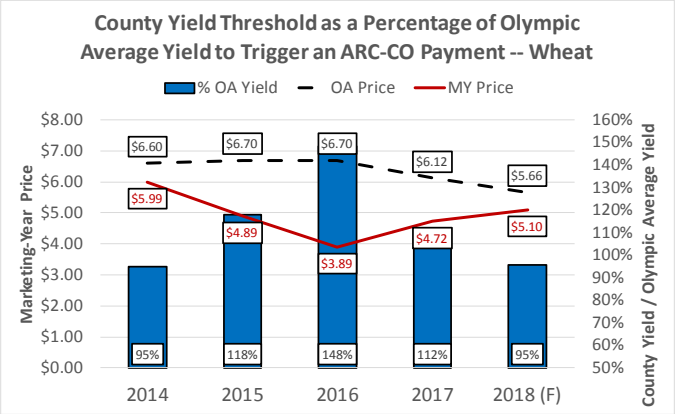
Figure 14. ARC-CO Soybean Threshold Yields as a Percentage of the County Olympic Average Yield.



For corn, if the county's yield were 26% above the Olympic Average Yield in 2015, then there would be no ARC-CO payment. This figure represents what many farmers experienced with ARC-CO where large yields offset or eliminated ARC-CO payments even though the marketing-year average price was low enough to potentially trigger a payment. For the 2017 corn crop, there would not be a payment if the county's corn yield as more than 1% above the Olympic Average yield. For the 2018 crop given an assumed marketing-year average price of $3.60 per bushel, the county's corn yield must be at least 12% lower than the Olympic Average yield to trigger a payment (Figure 13).

For soybeans, the county yield could exceed the Olympic average yield in 2016 by up to 8% and still receive an ARC-CO payment. As the Olympic Average price has declined, the threshold yield level is declining, and the county's yield cannot deviate above the Olympic Average Yield and still trigger a payment. The 2017 county yield had to be lower than the Olympic Average Yield to trigger an ARC-CO payment. For the 2018 soybean crop given the assumed marketing-year average price of $8.60 per bushel, the county yield has to be at least 4% below the Olympic Average yield to trigger an ARC-CO payment. As in corn, larger than average yields can eliminate a potential payment (Figure 14).

Figure 15. ARC-CO Wheat Threshold Yields as a Percentage of the County Olympic Average Yield.



The combination of a lower marketing-year average price relative to the Olympic Average price has allowed ARC-CO wheat payments to be triggered even with yields above the Olympic Average yield. For instance, the threshold county yield in 2016 could have exceeded the Olympic Average yield by up to 48% and still trigger a payment. For 2017, the county yield could exceed the Olympic Average Yield by up to 12% and trigger a payment. However, the 2018 wheat crop requires the county yield to be at least 5% below the Olympic Average yield to trigger an ARC-CO payment.

The objective of Figures 13-15 is to remind managers why ARC-CO payments are triggered in one year but not another year. The frustrating aspect of ARC-CO is that the size of payments differ among counties even if they are adjacent. This disparity is not a desired policy outcome but is a function of the different county's Olympic Average yields used to establish the ARC-CO revenue guarantees and potential payments.

The ARC-CO payment history for corn for selected counties in Western Kentucky is provided in Table 14 to illustrate how payments have differed by crop year and county. Summary statistics for all of the counties receiving payments are included at the bottom of Table 14. All of the payments are adjusted by 85% as payments are made on 85% of a farm's base acres.

Table 14. ARC-CO Corn Payments ($/base acre) for Selected Counties for the 2014 to 2017 Crops.

	Corn	Corn	Corn	Corn
	2014	2015	2016	2017
Ballard	$0.00	$37.47	$65.14	$0.00
Caldwell	$58.75	$39.62	$61.48	$0.00
Christian	$67.45	$0.00	$26.44	$0.00
Daviess	$29.16	$70.93	$68.81	$0.00
Graves	$59.73	$0.00	$60.66	$0.00
Hardin	$61.60	$0.00	$61.48	$0.00
Henderson	$0.90	$54.54	$66.37	$0.00
Hickman	$12.04	$17.59	$65.14	$5.31
Hopkins	$21.52	$23.22	$60.66	$0.00
Logan	$63.40	$0.00	$0.00	$0.00
Todd	$65.20	$0.00	$7.91	$0.00
Trigg	$62.50	$0.00	$52.60	$0.00
Union	$7.40	$72.85	$70.44	$0.00
Warren	$67.45	$0.00	$0.00	$0.00
Total Counties in KY Receiving an ARC-CO Payment and Average Payment				
	2014	**2015**	**2016**	**2017**
No. of Counties	101	101	101	101
No. w/ Payments	75	66	93	19
Average Payment ($/Base Acre)	$40.53	$37.90	$54.63	$28.68

Table 15. ARC-CO Soybeans Payments ($/base acre) for Selected Counties for the 2014 to 2017 Crops.

	Soybeans	Soybeans	Soybeans	Soybeans
	2014	2015	2016	2017
Ballard	$0.00	$16.44	$0.00	$0.00
Caldwell	$0.00	$10.19	$4.72	$0.00
Christian	$33.69	$19.16	$0.00	$0.00
Daviess	$0.00	$9.39	$0.00	$0.00
Graves	$0.00	$0.00	$0.00	$0.00
Hardin	$0.00	$0.00	$0.00	$0.00
Henderson	$0.00	$0.00	$0.00	$0.00
Hickman	$0.00	$16.44	$3.46	$0.00
Hopkins	$0.00	$0.00	$5.97	$0.00
Logan	$44.85	$30.29	$0.00	$0.00
Todd	$0.00	$37.10	$0.00	$0.00
Trigg	$6.41	$0.00	$0.00	$0.00
Union	$0.00	$51.10	$7.85	$0.00
Warren	$35.62	$49.02	$0.00	$0.00
Total Counties in KY Receiving an ARC-CO Payment and Average Payment				
	2014	**2015**	**2016**	**2017**
No. of Counties	92	92	92	92
No. w/ Payments	16	69	42	9
Average Payment ($/Base Acre)	$22.83	$28.76	$17.36	$11.70

Notice how the number of counties receiving ARC-CO payments has declined from the 2016 to 2017 crop (93 counties vs. 19 counties out of 101 counties). The average ARC-CO payment per base acres has also declined from $54.63 to $28.68 per base acre from 2016 to 2017. Of the selected counties in Table 14, only Hickman County received an ARC-CO payment for the 2018 crop.

A summary of ARC-CO soybean payments for selected counties is in Table 15. The summary statistics show that 16 of 92 counties received a payment in 2014, which increased to 69 of 92 counties in 2015. As the Olympic Average Price has declined, large enough soybean yields have reduced the number of counties receiving payments and the size of those payments for the 2016 crop. USDA-Farm Service Agency data show only 9 of 92 counties received an ARC-CO soybean payment for 2017 with the average payment of $11.70 per base acre (Table 15).

Table 16. ARC-CO Wheat Payments ($/base acre) for Selected Counties for the 2014 to 2017 Crops.

	Wheat 2014	Wheat 2015	Wheat 2016	Wheat 2017
Ballard	$0.00	$34.17	$22.73	$0.00
Caldwell	$0.00	$29.17	$42.71	$15.95
Christian	$0.00	$43.85	$44.99	$41.62
Daviess	$0.00	$36.00	$42.14	$19.51
Graves	$23.38	$37.02	$37.59	$7.33
Hardin	$13.74	$28.59	$36.45	$0.00
Henderson	$3.02	$37.02	$36.45	$36.41
Hickman	$0.00	$37.02	$37.59	$32.32
Hopkins	$0.00	$5.58	$35.31	$0.00
Logan	$0.00	$34.07	$43.85	$19.51
Todd	$0.00	$19.37	$43.28	$40.05
Trigg	$0.00	$39.41	$41.57	$33.70
Union	$11.60	$36.00	$41.00	$2.53
Warren	$0.00	$39.70	$44.42	$40.49
Total Counties in KY Receiving an ARC-CO Payment and Average Payment				
	2014	**2015**	**2016**	**2017**
No. of Counties	93	93	93	93
No. w/ Payments	15	89	93	69
Average Payment ($/Base Acre)	$25.36	$30.95	$33.97	$25.21

The ARC-CO payment history for wheat for the same group of counties are included in Table 16. Notice that all 93 counties received an ARC-CO payment in 2016 with the average payment of $33.97 per base acre (Table 16). Wheat in 2016 is the only crop and year where every county received a payment. For 2017, 69 of 93 counties received a payment averaging $25.21 per base acre.

As managers develop their risk management plans for 2019, it is essential to recognize that ARC-CO payments for the 2018 crop may not be triggered given the declining yield threshold that chokes off payments for the three crops. Even if a payment is made, it will not arrive until October 2019 and will not help with cash flow.

Topic 10. 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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