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U.S. Baseline Outlook

Projections for Agricultural and Biofuel Markets

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Any opinion, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture nor the University of Missouri.

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FAPRI-MU and AMAP are both part of the Integrated Policy Group in the MU Division of Applied Social Sciences.

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The Agricultural and Food Policy Center at Texas A&M University will prepare a companion set of estimates of the farm-level impacts of these projections (www.afpc.tamu.edu).

The authors would like to thank participants in a workshop reviewing a preliminary version of these estimates in Washington, D.C., in December 2017. Any remaining errors are those of the authors.

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Summary

Net farm income is projected to remain around \$60 billion for the third straight year in 2018, roughly half the record level reached in 2013. A modest increase in prices for some major crops results in slightly higher farm income in 2019.

These baseline projections for agricultural and biofuel markets were prepared using market information available in January 2018. Macroeconomic assumptions are based primarily on forecasts by IHS Markit, which suggest moderate growth in the U.S. and global economies. The baseline incorporates 2014 farm bill provisions and assumes a continuation of current policies. Except for dairy, it does not incorporate provisions of the Bipartisan Budget Act, approved in February 2018.

Commodity markets will continue to be volatile. We use our models to develop a range of projected market outcomes that takes into account some major sources of uncertainty about future supply and demand conditions. In some of the resulting 500 outcomes, prices, quantities and values are much higher or much lower than the averages reported here.

Some key results:

- A fifth straight year of global grain and oilseed yields above the long-term trend has made it difficult for crop prices to recover in the 2017/18 marketing year.
- Projected prices for corn, soybeans and wheat all increase slightly in 2018/19 and 2019/20, but large global stocks limit the increase. Corn prices average \$3.57 per bushel for the 2018/19 crop, while soybean prices average \$9.38 and wheat prices average \$4.89.
- In contrast to most other crops, projected upland cotton and rice prices decline in 2018/19. Cotton prices fall because of large carryover stocks from the 2017 crop and another year of upland cotton plantings in excess of 12 million acres. Rice prices fall on a rebound in rice acreage and production.
- Strong demand supported cattle, hog, chicken and milk prices in 2017 in the face of large increases in meat and milk production. Further production increases could weigh on livestock and dairy prices in 2018 unless demand growth is exceptionally strong.
- All commodity markets remain sensitive to the health of the global economy and trade relationships. The baseline does not assume any major trade disruptions nor any new agreements that would encourage U.S. exports.
- Projected net farm income increases slightly in 2019. In later years, real net farm income is fairly flat, remaining below the 2015 level through 2027.
- Net farm income is much lower relative to farm debt than the 1995-2014 average. The baseline suggests continued pressure on farm finances.
- Agriculture Risk Coverage (ARC) payments are expected to decline rapidly. More farmers are assumed to choose Price Loss Coverage (PLC) in 2019 if current program rules are extended by a new farm bill and producers are allowed to make a new election.
- Crop insurance net outlays are projected to average more than \$8 billion per year for fiscal years 2019-2027. Major commodity program outlays average a little over \$6 billion per year over the same period.
- Annual food price inflation was below 1 percent for the second straight year in 2017. Projected food price inflation is about 2 percent in 2018, similar to the overall rate of inflation in the U.S. economy.

Key results

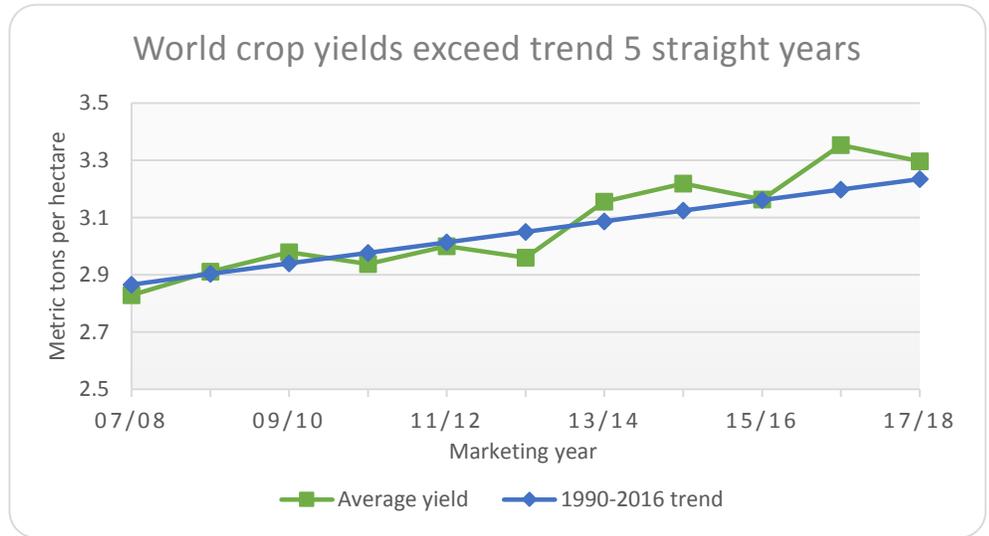
Marketing year	2014/15-2016/17 average	2017/18	2018/19	2019/20-2027/28 average
Crop prices				
Corn farm price, dollars per bushel	3.56	3.23	3.57	3.71
Soybean farm price, dollars per bushel	9.51	9.23	9.38	9.55
Wheat farm price, dollars per bushel	4.92	4.68	4.89	4.95
Upland cotton farm price, cents per pound	63.5	68.8	64.3	69.7
Crop area planted, million acres				
Corn	90.9	90.2	89.7	91.4
Soybeans	83.1	90.1	90.0	88.0
Wheat	54.0	46.0	47.2	46.9
Upland cotton	9.7	12.4	12.1	11.7
12 major crops*	259.4	257.1	258.8	257.3
<hr/>				
Calendar year except as noted	2014-2016 average	2017	2018	2019-2027 average
Livestock sector prices				
Fed steers, 5-area direct, dollars per cwt	141.18	121.52	115.25	120.27
Barrows and gilts, 51-52% lean, dollars per cwt	57.47	50.48	48.40	50.43
National wholesale broiler, cents per pound	93.24	93.51	89.06	93.87
All milk, dollars per cwt	19.21	17.73	16.29	18.02
Biofuel production, billion gallons				
Ethanol	14.8	15.8	15.9	15.9
Corn starch-based ethanol	14.6	15.6	15.7	15.6
Biomass-based diesel	1.6	2.2	2.5	2.6
Government outlays, billion dollars, fiscal year				
Commodity Credit Corporation net outlays	9.5	10.8	11.4	9.4
Major commodity programs	4.3	7.9	8.5	6.3
CRP, disaster and all other CCC net outlays	5.2	2.9	2.9	3.1
Crop insurance net outlays	6.6	4.3	4.2	8.5
Net farm income, billion dollars				
In 2017 dollars	78.4	63.8	60.8	78.8
	80.6	63.8	59.7	69.2
Farm balance sheet, billion dollars				
Farm assets	2,938	3,040	3,023	3,003
Farm debt	359	385	392	418
Debt/asset ratio	12.2%	12.7%	13.0%	13.9%
Annual consumer food price inflation				
	1.5%	0.9%	2.0%	2.5%

*Includes corn, soybeans, wheat, upland cotton, sorghum, barley, oats, rice, peanuts, sunflowers, sugarcane and sugar beets.

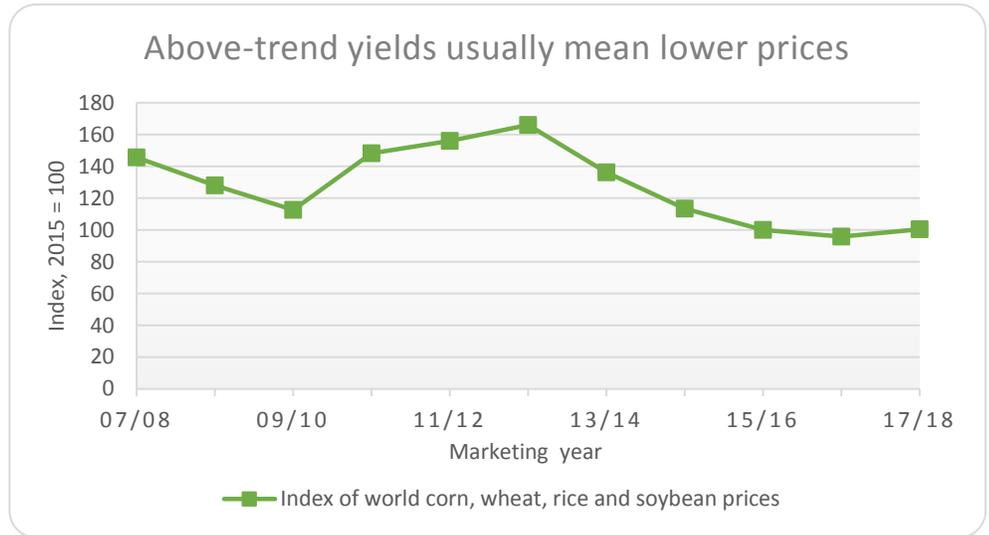
Note: The estimates are based on market information available in January 2018. Projections are averages across 500 outcomes.

Crop sector highlights

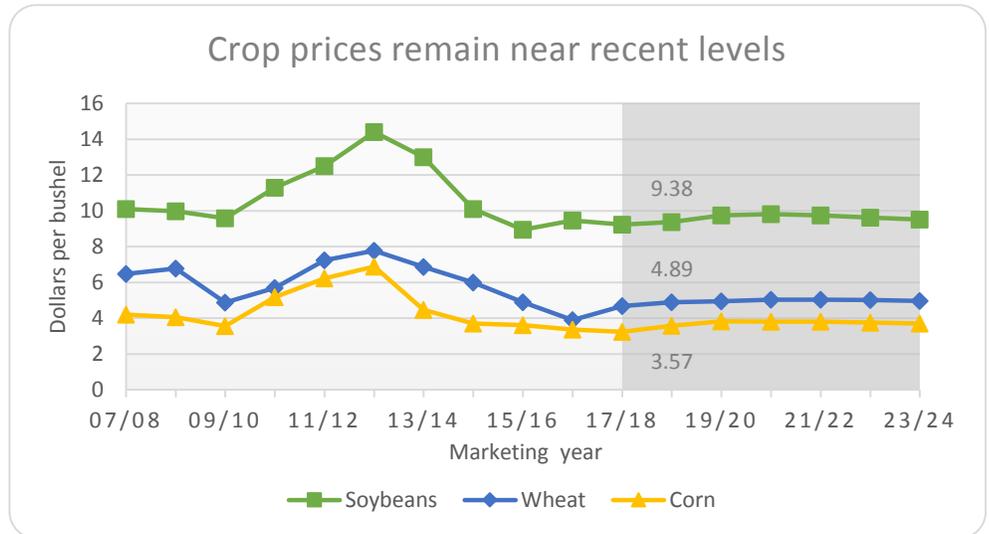
World average yields for 14 grains and oilseeds have exceeded the long-term trend for five straight years. Generally favorable weather since the 2012 drought and improved technologies have both played a role. Production has exceeded use in most years, resulting in a build-up of stocks of several commodities.



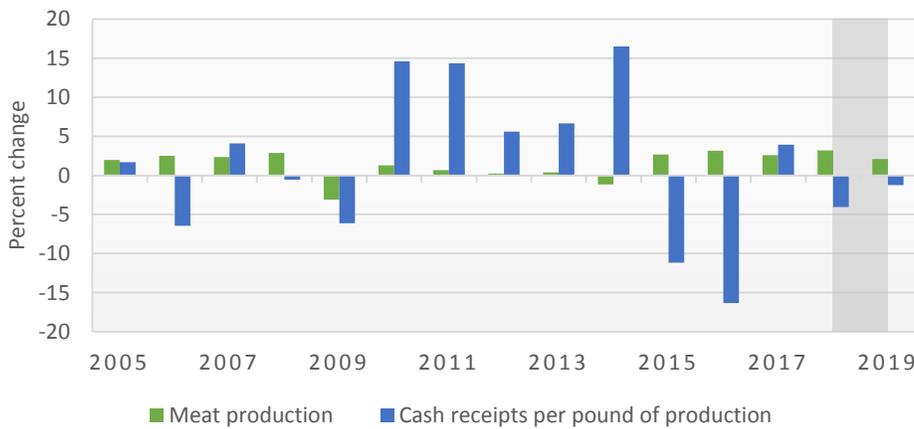
Big crops and larger stocks usually translate into lower prices. From 2007-2016, every time the world average yield exceeded the long-term trend, an index of corn, wheat, rice and soybean prices declined. Many things affect farm commodity prices, but the influence of weather and other factors that determine crop yields should not be underestimated.



Projected average prices for most grains and oilseeds increase only slightly from prices received in recent years. Average corn prices remain below \$4 per bushel, soybean prices stay below \$10 per bushel and wheat prices average around \$5 per bushel. In any given year, weather and other factors are likely to result in prices that deviate substantially from the stochastic baseline averages reported here.



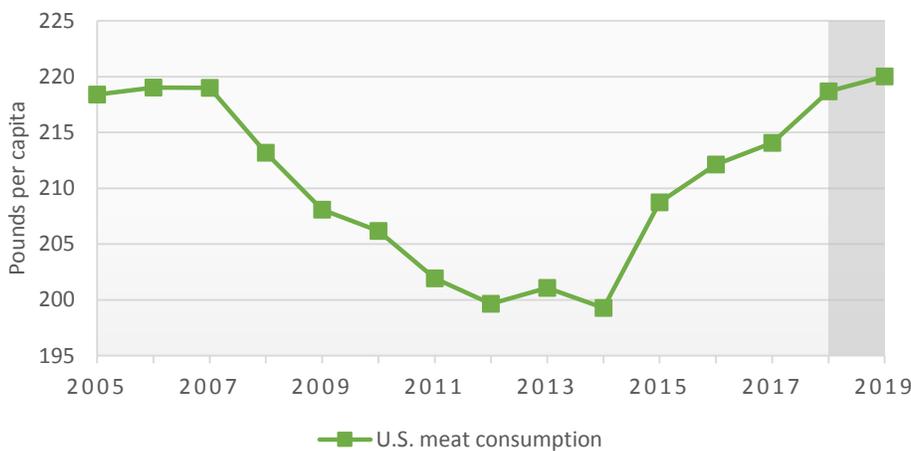
Strong demand supports livestock prices



Livestock and dairy outlook highlights

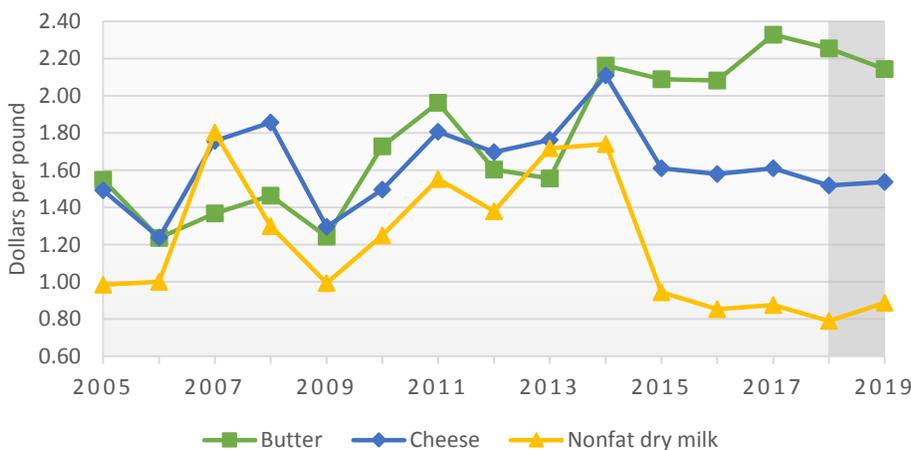
Consumer demand for meat was stronger than average in 2017. It is rare for meat supplies to grow as they did last year without output prices suffering more severe declines. While economic projections point to U.S. meat demand remaining solid, prices are projected to retreat for most products in 2018 due to continued supply pressure and a return to more historical levels of consumer demand.

Meat availability to reach record levels



Though meat exports will continue to increase in 2018, even larger production increases will result in more meat for U.S. consumers. Per capita availability in 2018 will be nearly 20 pounds (10 percent) above 2014, returning to levels last experienced in 2004-2007. Production growth will begin to slow in 2019, and domestic supplies should peak around 2020. Any unexpected challenges to domestic or international meat demand could severely deflate livestock prices.

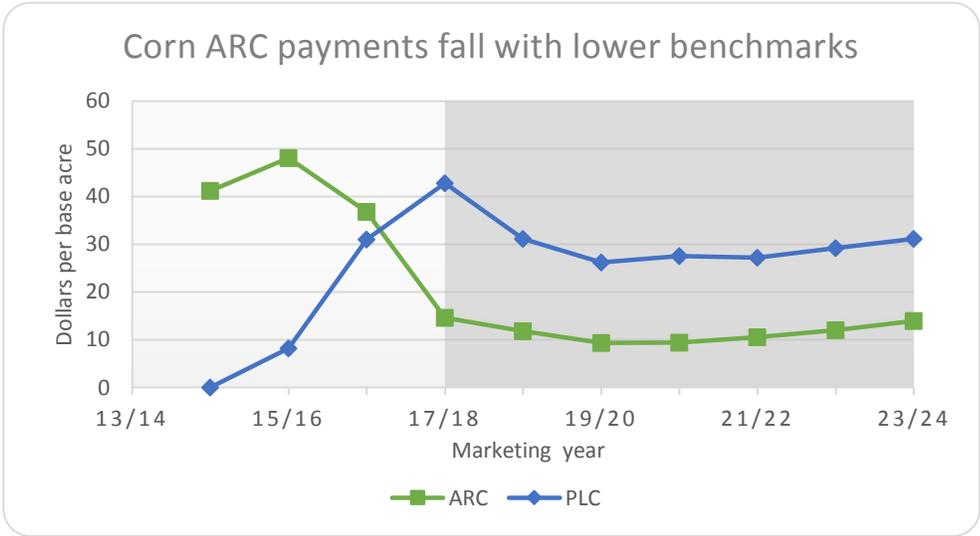
Butterfat demand drives dairy prices



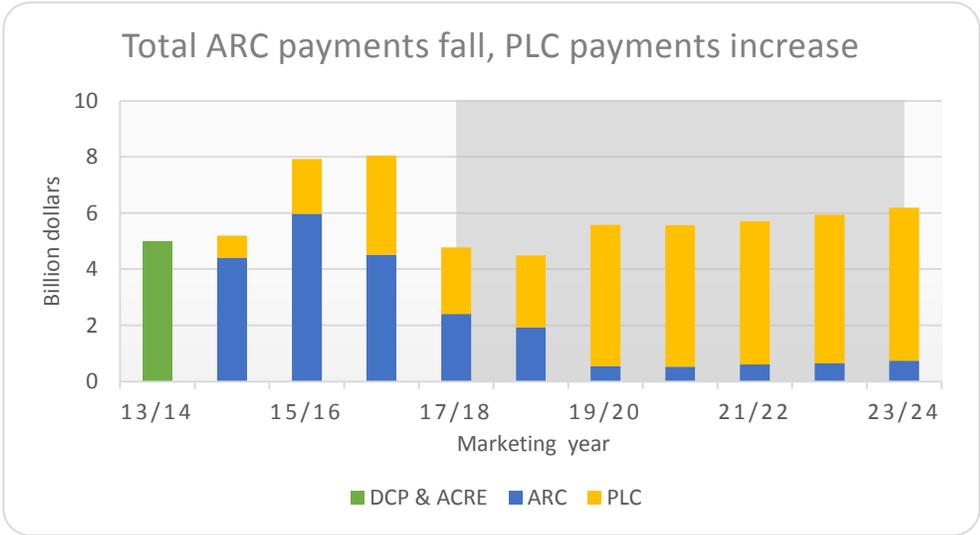
Butter prices reached record levels in 2017 due to growing demand for milkfat in the U.S. and around the world. This demand trend was also evident in fluid milk consumption, as U.S. whole fluid milk outpaced lowfat use for the first time since 2004. With nonfat dry milk demand faltering, stocks are building in the U.S. and around the world, depressing milk powder prices. Strong demand for butterfat is projected to continue.

Farm program outlays

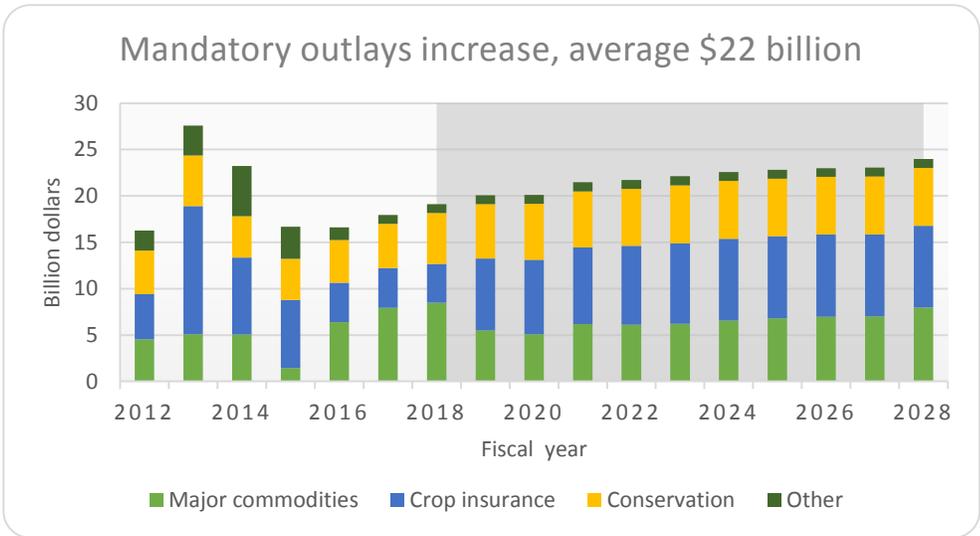
The baseline generally assumes an extension of farm programs in place in January 2018. Under current program rules, Agriculture Risk Coverage (ARC) payment rates for corn are projected to decline. The program uses a benchmark tied to a moving average of past prices, which has declined sharply since 2015. Projected average Price Loss Coverage (PLC) payment rates exceed those under ARC, not just for corn, but for all major program crops.



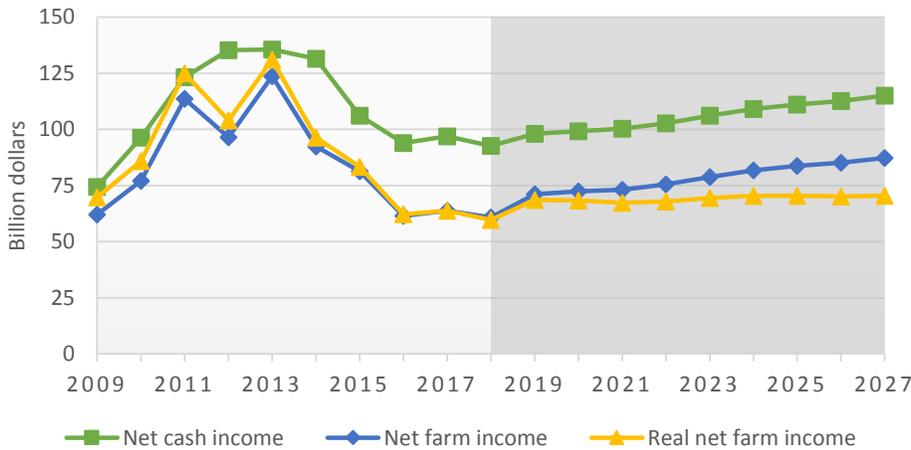
Total ARC payments peaked in 2015/16, at levels exceeding Direct and Countercyclical Program (DCP) and Average Crop Revenue Election (ACRE) payments under previous legislation. ARC payments under the current farm bill decline. In the baseline, it is assumed that producers can make a new ARC-PLC election in 2019, and that more will choose PLC because of the expected difference in payment rates. Total PLC payments average about \$5 billion per year between 2019/20 and 2023/24.



Crop insurance outlays were relatively small in fiscal years (FY) 2016 and 2017, as high yields reduced program costs. Projected average crop insurance outlays rebound in FY 2019 when a range of possible yield and market outcomes is considered. Conservation spending increases to about \$6 billion under a continuation of 2014 farm bill provisions. Adding in commodity programs and a variety of smaller programs, total mandatory spending averages \$22 billion between FY 2019 and FY 2028.



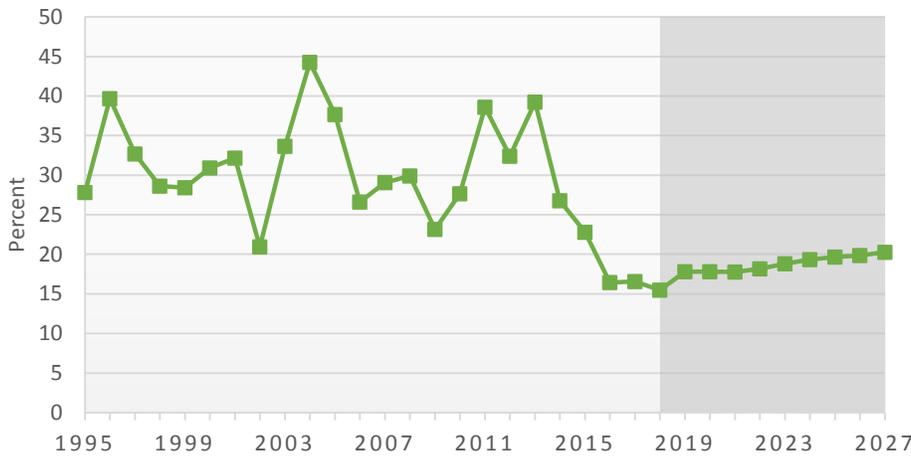
Farm income measures improve slightly in 2019



Farm income, debt and food prices

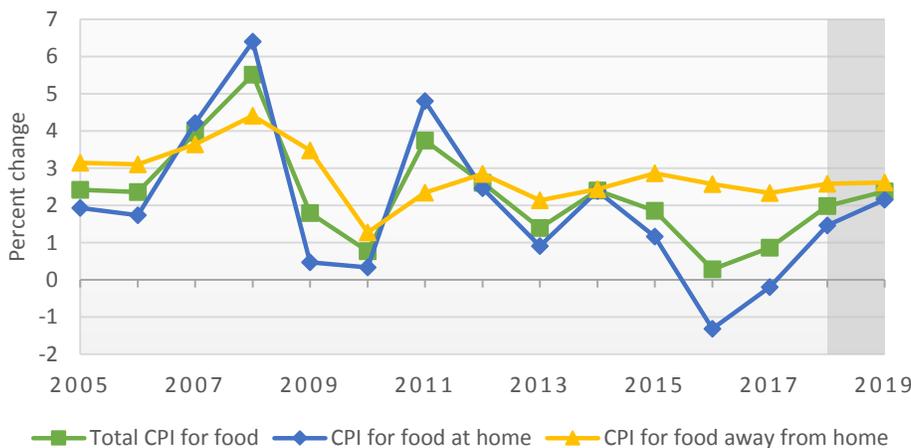
Different measures of net income for the farm sector all show sharp declines from recent peaks. Net farm income remains around \$60 billion for the third straight year in 2018. Farm income measures improve slightly in 2019, in part because of a modest recovery in prices for corn and other crops. After 2019, real net farm income (correcting for inflation) remains relatively constant.

Ratio of net farm income to debt remains low



The recent decline in net farm income makes it more difficult for producers to service debts. Annual net farm income averaged almost 32 percent of outstanding farm debt between 1995 and 2014, but that ratio dropped to less than 17 percent in 2016 and 2017. The projected increase in farm income in 2019 increases the ratio, but it remains far below the historical average through 2027. This suggests continued pressure on farm finances in the years ahead.

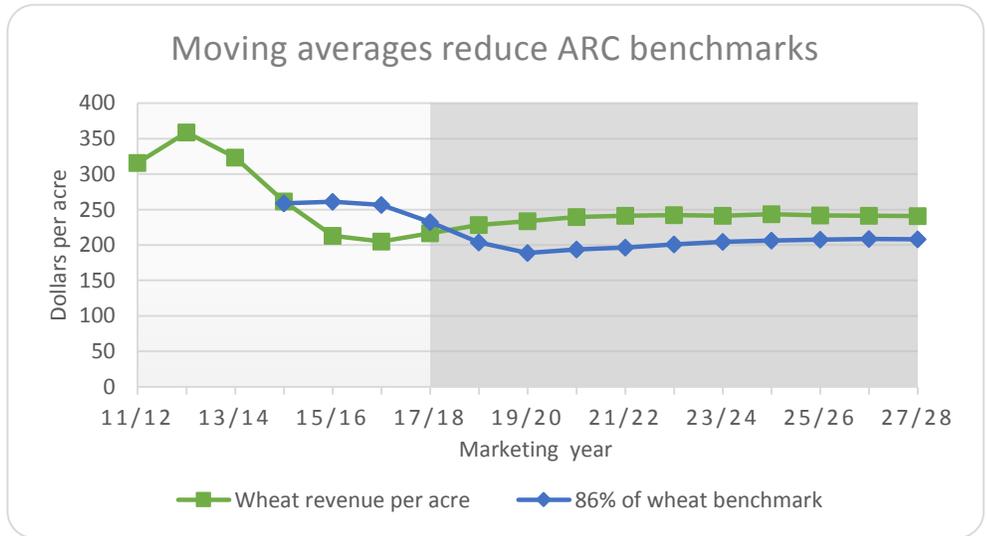
Food inflation returns to more historical levels



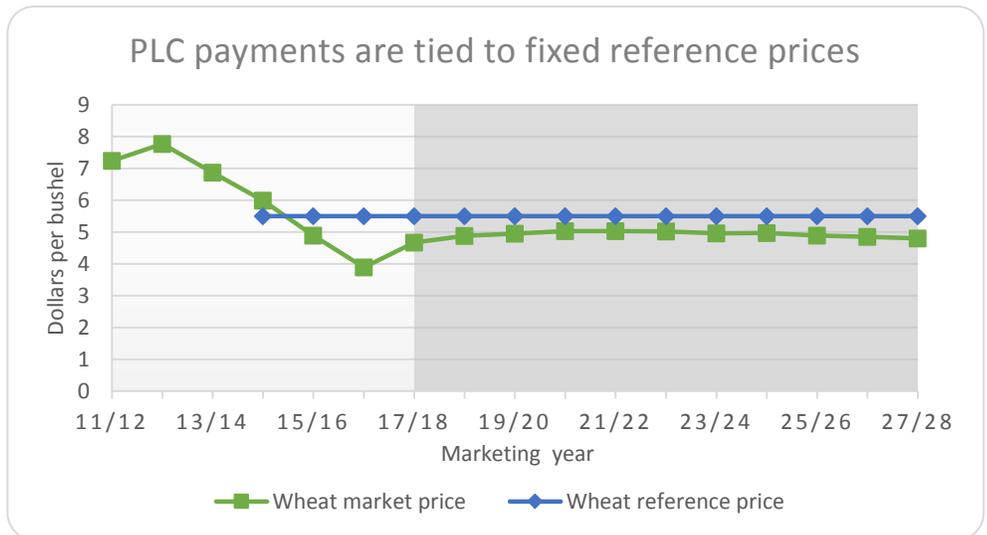
Food inflation recorded less than 1 percent growth in 2016 and 2017. It was the first time that consecutive years had grown by less than 1 percent since 1955-56. The food at home price index declined in both 2016 and 2017, as commodity prices fell and energy prices remained low. Food prices have begun to increase in recent months, and will post more typical rates of growth moving forward. Food away from home inflation is driven by a strong economy and more restaurant food consumption.

Policy assumptions

ARC is one option for grain and oilseed producers. Participating producers receive a payment when revenues fall below a trigger tied to past market prices and county yields. For illustration purposes only, the chart uses national average wheat prices and yields. With these assumptions, payments occur for the 2015/16-2017/18 marketing years, but not for 2018/19 and later years, assuming current ARC rules are maintained in the next farm bill.

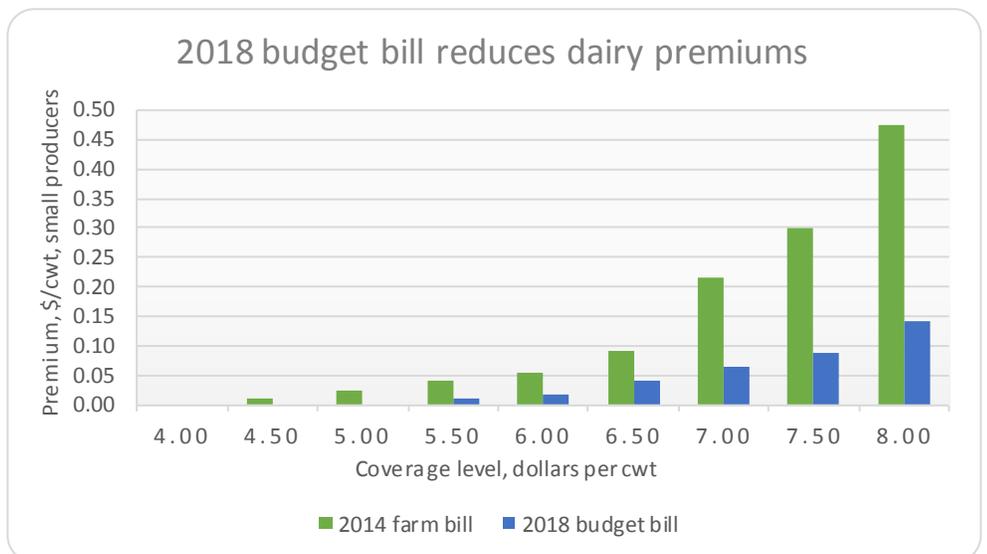


PLC is the other option for grain and oilseed producers. Payments occur when national marketing year average prices fall below a fixed reference price. As with ARC, payments are made on 85 percent of base acres for a particular crop. Given expected wheat prices, PLC payments continue each year.



The Bipartisan Budget Act (BBA), signed into law in February 2018, reduces premiums under the Dairy Margin Protection Program. For the first 5 million pounds of production on a farm, premiums are eliminated for the \$4.50 and \$5.00 per cwt coverage options and sharply reduced for other coverage levels.

Other provisions of the BBA, including provisions of disaster payments and creation of new PLC and ARC programs for seed cotton, are not included in this baseline.

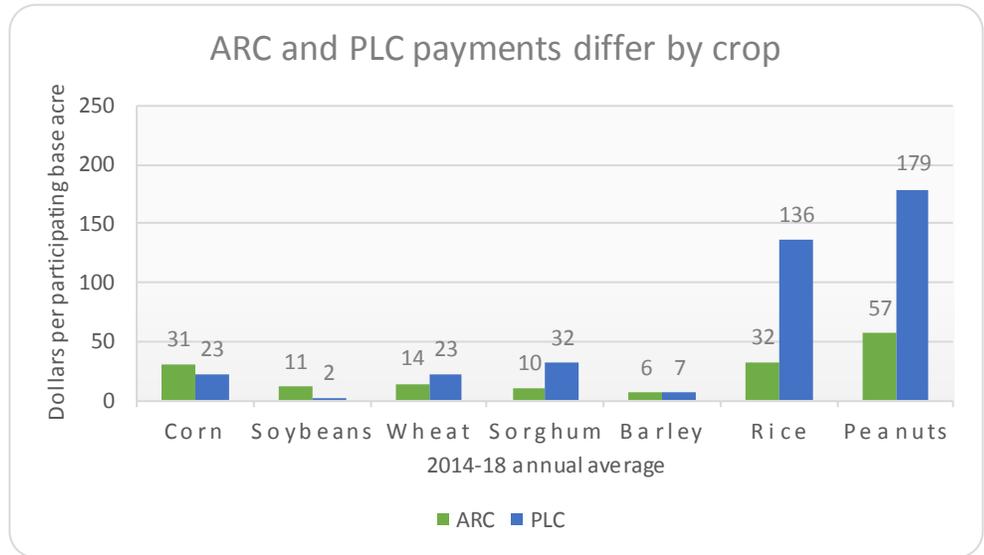


Selected policy assumptions, 2017-27

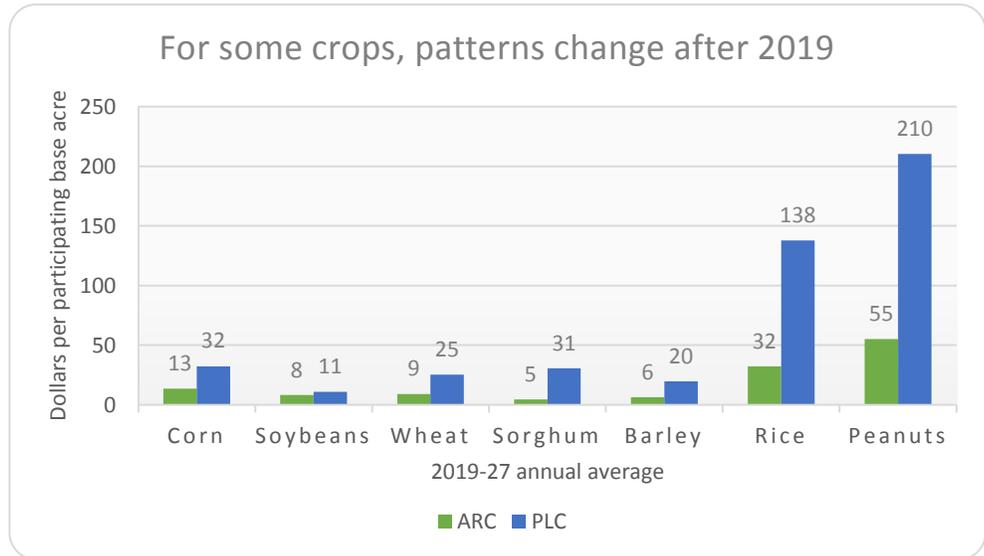
Policy	Description																				
Price Loss Coverage (PLC)	<p>Makes payments when marketing year average price falls below fixed reference prices:</p> <table border="0"> <tr> <td>Corn</td> <td>\$3.70/bushel</td> </tr> <tr> <td>Soybeans</td> <td>\$8.40/bushel</td> </tr> <tr> <td>Wheat</td> <td>\$5.50/bushel</td> </tr> <tr> <td>Rice</td> <td>\$14.00/cwt (\$16.10/cwt for Japonica)</td> </tr> <tr> <td>Sorghum</td> <td>\$3.95/bushel</td> </tr> <tr> <td>Barley</td> <td>\$4.95/bushel</td> </tr> <tr> <td>Oats</td> <td>\$2.40/bushel</td> </tr> <tr> <td>Peanuts</td> <td>\$535/ton</td> </tr> <tr> <td>Sunflowers</td> <td>20.15 cents/pound</td> </tr> <tr> <td>Upland cotton</td> <td>not available</td> </tr> </table> <p>Paid on program yields and 85% of base acreage</p>	Corn	\$3.70/bushel	Soybeans	\$8.40/bushel	Wheat	\$5.50/bushel	Rice	\$14.00/cwt (\$16.10/cwt for Japonica)	Sorghum	\$3.95/bushel	Barley	\$4.95/bushel	Oats	\$2.40/bushel	Peanuts	\$535/ton	Sunflowers	20.15 cents/pound	Upland cotton	not available
Corn	\$3.70/bushel																				
Soybeans	\$8.40/bushel																				
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Rice	\$14.00/cwt (\$16.10/cwt for Japonica)																				
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Oats	\$2.40/bushel																				
Peanuts	\$535/ton																				
Sunflowers	20.15 cents/pound																				
Upland cotton	not available																				
Agriculture Risk Coverage (ARC)	<p>Makes payments when revenues fall below 86% of a benchmark</p> <p>County option (ARC-CO) benchmark: 5-year Olympic average of national marketing year prices multiplied by the 5-year Olympic average of county yields per planted acre</p> <p>Farm option (ARC-IC) benchmark: 5-year Olympic average of weighted farm revenue per acre</p> <p>Maximum payment is 10% of benchmark value</p> <p>Paid on 85% (ARC-CO) or 65% (ARC-IC) of base acreage</p> <p>Available for program crops (not upland cotton)</p>																				
ARC/PLC participation	<p>For 2014-2018, participation reflects elections made in 2015</p> <p>In 2019, producers assumed to make a new program election</p> <p>Participation rates for 2019 and subsequent years are based on a comparison of expected payments</p> <p>The corn PLC participation rate, for example, is increased to 70%</p>																				
Sequestration	<p>Assumed to apply to PLC and ARC payments and certain conservation payments</p> <p>Rate: 6.8% for 2016 crop payments, 6.9% for 2017-25 crop payments and 0 for 2026 and 2027</p>																				
Marketing loan program	<p>2014 farm bill levels provisions</p>																				
Supplemental coverage option	<p>Available for program crops not enrolled in ARC beginning in 2015</p> <p>Area crop insurance available as a supplement to conventional insurance</p> <p>Covers range between 86% and individual coverage level</p> <p>65% of premium subsidized</p>																				
Upland cotton	<p>Does not incorporate seed cotton provisions of the 2018 Bipartisan Budget Act</p> <p>Reflects 2014 farm bill provisions, implying no PLC or ARC program</p> <p>STAX crop insurance program</p> <p>Generic base eligible for PLC or ARC if planted to other crops</p> <p>Loan rate varies in range depending on recent world cotton prices</p>																				
Sugar	<p>2014 farm bill provisions</p> <p>Agreement with Mexico incorporated</p>																				
Conservation reserve	<p>Caps conservation reserve acreage at 24 million acres</p>																				
Dairy	<p>Margin Protection Program (MPP-Dairy)</p> <p>Does incorporate 2018 Bipartisan Budget Act change in premium structure</p>																				

Crop program participation

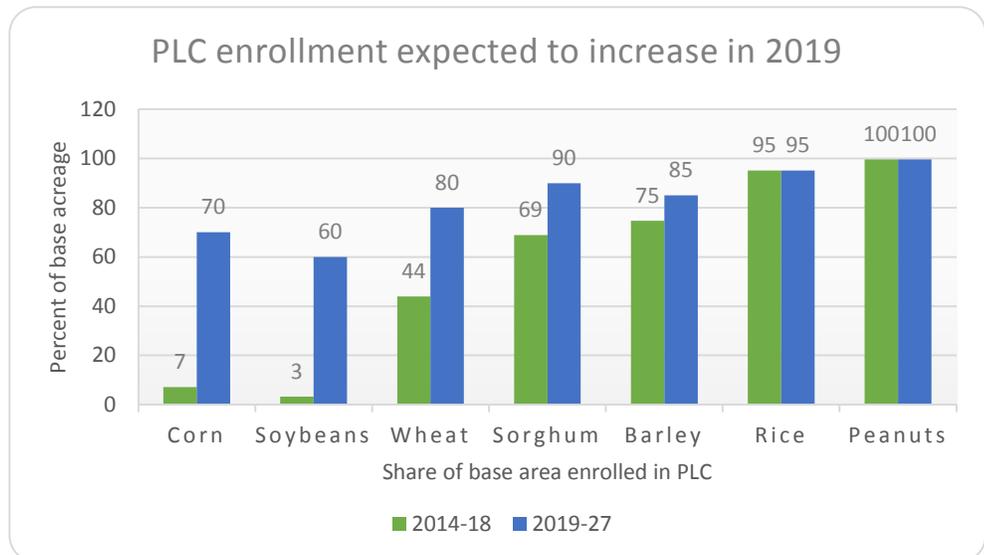
Under the 2014 farm bill, producers made a one-time election of ARC or PLC for each crop for the 2014-2018 crop years. For corn and soybeans, projected average ARC payments per base acre are larger over the 2014-18 period than average projected PLC payments. The reverse is true for wheat, sorghum, barley, rice and peanut base acreage.



For corn and soybeans, projected ARC payments decline as the moving average of prices used to set the ARC benchmark adjusts to the lower prices of recent years. Projected average ARC payments per participating base acre are smaller than projected PLC payments for all the major crops for 2019-2027.



For baseline purposes, we assume farmers will have an opportunity to make a new ARC-PLC election for the 2019-2027 period. Given projected payments, PLC may look more attractive in 2019 than it did in 2015, when the 2014-2018 election was made. As a result, we assume greater PLC participation for corn, soybeans, wheat and several other crops after 2019.

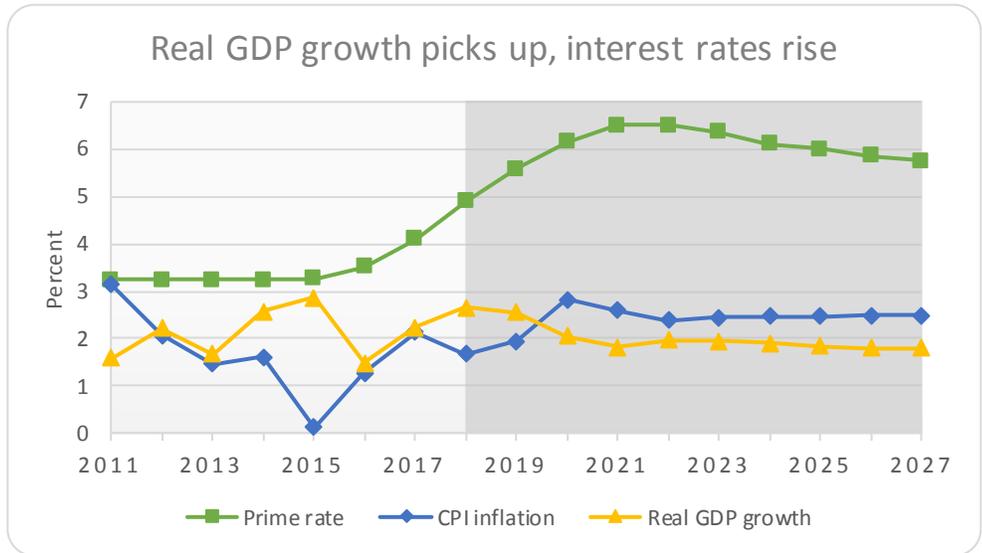


ARC and PLC payments and participation rates

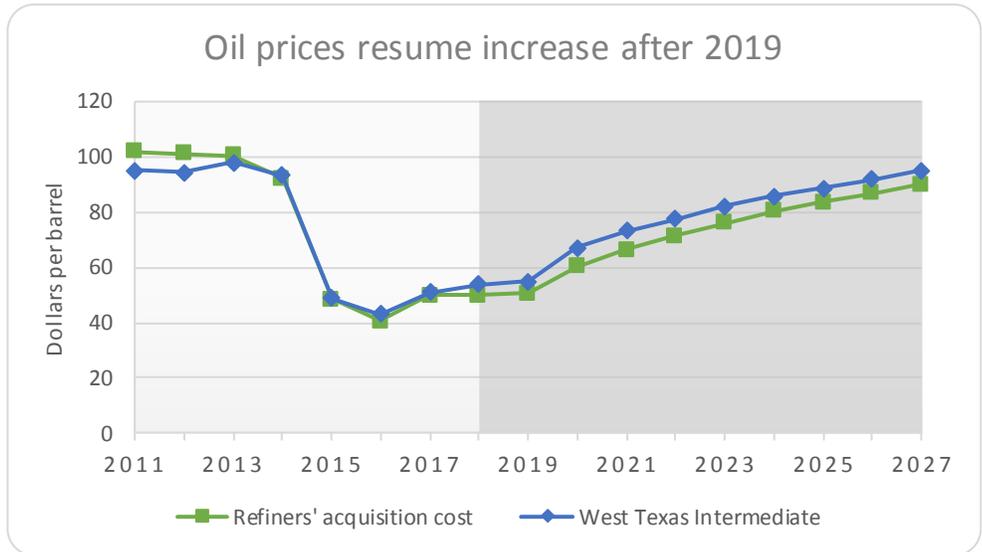
	Average ARC payment	Average PLC payment	Share of base acres in:	
			ARC	PLC
Average for 2014-2018 crop years	(Dollars per base acre)		(Percent)	
Corn	30.52	22.64	92.9	7.1
Soybeans	11.18	1.81	96.8	3.2
Wheat	14.44	22.66	56.0	44.0
Sorghum	10.42	31.91	31.1	68.9
Barley	6.08	6.74	25.3	74.7
Oats	4.80	5.77	66.3	33.7
Rice	32.32	135.87	4.8	95.2
Long grain	42.26	144.96	0.2	99.8
Short and medium grain	32.02	64.10	30.7	69.3
Peanuts	57.14	179.32	0.3	99.7
Sunflowerseed	6.14	18.93	43.6	56.4
Average for 2019-2027 crop years				
Corn	13.50	32.32	30.0	70.0
Soybeans	8.13	11.00	40.0	60.0
Wheat	8.99	25.28	20.0	80.0
Sorghum	4.61	30.62	10.0	90.0
Barley	6.41	19.57	15.0	85.0
Oats	1.57	9.07	30.0	70.0
Rice	32.22	137.76	4.8	95.2
Long grain	42.57	143.24	0.2	99.8
Short and medium grain	31.88	95.46	30.6	69.4
Peanuts	55.30	210.47	0.3	99.7
Sunflower seed	8.14	25.45	10.0	90.0

Macroeconomic assumptions and farm prices paid

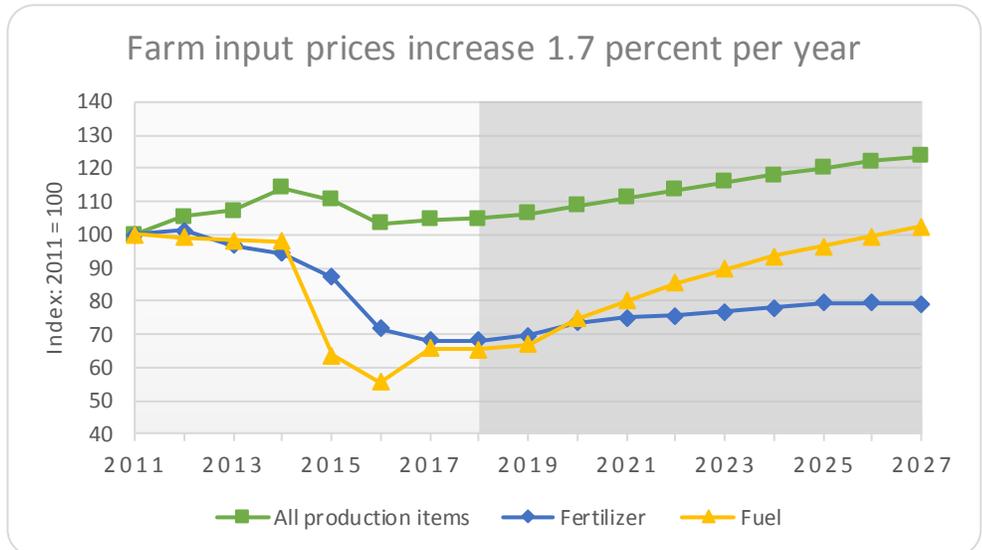
In January 2018, IHS Markit forecasted faster U.S. economic growth in the near term, with real GDP growth reaching 2.7 percent in 2018. Growth then slows to about 2 percent per year after 2019. Projected inflation picks up to an average of 2.4 percent. The prime lending rate increases to 6.5 percent by 2021.



The baseline adopts IHS Markit’s forecast of steadily increasing crude oil prices after 2019. By 2027, nominal oil prices are near the levels of 2011-2014. Futures markets in early March imply a lower price path. Higher oil prices increase farm production costs and can affect demand for biofuels.



Lower fuel and fertilizer prices helped reduced the index of farm production input prices in 2015 and 2016. Higher prices for fuel and other inputs contribute to a 1.7 percent per year increase in farm input prices from 2018-2027.



Macroeconomic assumptions

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Real GDP growth											
	(Percent change from previous year)										
United States	2.2	2.7	2.6	2.0	1.8	2.0	1.9	1.9	1.8	1.8	1.8
China	6.8	6.6	6.3	6.1	6.2	6.0	5.9	5.7	5.5	5.3	5.1
World	3.2	3.3	3.2	3.0	3.1	3.1	3.1	3.1	3.1	3.0	3.0
Population growth											
United States	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7
World	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
U.S. CPI, all urban consumers	2.1	1.7	1.9	2.8	2.6	2.4	2.4	2.5	2.5	2.5	2.5
(Percent)											
U.S. unemployment rate	4.4	3.9	3.7	3.8	4.1	4.3	4.4	4.5	4.6	4.7	4.7
3-month Treasury bill rate	0.9	1.7	2.3	2.8	3.1	3.1	3.0	2.8	2.7	2.5	2.4
Prime interest rate	4.1	4.9	5.6	6.1	6.5	6.5	6.4	6.1	6.0	5.9	5.7
Petroleum prices											
	(Dollars per barrel)										
West Texas intermediate	50.91	53.76	54.76	67.01	73.10	77.65	82.08	85.88	88.72	91.67	94.94
Refiners' acquisition cost	50.04	50.05	50.71	60.39	66.39	71.56	76.22	80.22	83.62	86.79	90.04
Natural gas price											
	(Dollars per million BTU)										
Henry Hub	2.96	2.82	3.20	3.14	3.13	3.32	3.59	4.00	4.13	4.14	4.27
Exchange rates											
	(Currency per dollar)										
Euro	0.89	0.86	0.86	0.84	0.83	0.82	0.81	0.81	0.80	0.80	0.80
Chinese yuan	6.76	6.58	6.78	7.04	7.19	7.02	6.90	6.79	6.71	6.66	6.64

Source: IHS Markit, January 2018

Indices of prices paid by farmers

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Production items, interest, taxes and wages											
	(2011=100)										
Production items	104.7	104.9	106.5	108.7	111.0	113.4	115.8	118.0	120.1	122.1	123.8
Feed	96.0	96.0	98.9	100.7	100.7	100.6	100.1	99.6	99.3	98.8	98.1
Livestock & poultry	106.6	101.7	99.6	97.2	100.1	105.1	111.0	115.9	119.3	122.7	125.0
Seeds	110.2	108.9	108.9	110.4	112.4	114.1	115.5	116.7	117.7	118.7	119.6
Fertilizer	68.1	68.3	69.6	73.6	74.9	75.6	76.6	78.1	79.4	79.5	79.2
Mixed fertilizer	67.6	68.1	69.4	73.4	74.8	75.6	76.6	78.0	79.1	79.1	78.8
Nitrogen fertilizer	68.4	67.5	68.7	72.9	74.0	74.3	75.3	76.9	78.8	79.2	78.9
Potash and phosph.	69.1	71.1	72.7	76.3	78.1	79.5	80.7	82.0	82.2	81.8	81.4
Agricultural chemicals	107.0	106.4	109.7	114.8	118.5	122.4	126.2	130.2	133.2	135.9	138.5
Fuels	65.9	65.6	66.9	74.8	80.2	85.3	89.7	93.5	96.6	99.5	102.4
Supplies & repairs	107.7	110.0	112.4	114.9	117.5	120.2	123.1	126.0	128.8	131.7	134.6
Autos & trucks	106.0	106.7	108.2	109.4	109.9	110.4	110.9	111.5	112.2	112.9	113.6
Farm machinery	117.9	119.9	124.0	128.4	132.4	136.0	139.7	143.3	147.2	151.2	155.1
Building material	110.5	113.3	115.9	118.2	120.0	121.8	123.5	125.3	127.0	128.7	130.4
Farm services	118.7	121.4	125.2	129.4	133.6	137.7	141.9	146.2	150.6	155.1	159.8
Interest*	111.6	116.9	123.4	128.6	132.5	135.4	138.1	140.7	143.7	146.6	149.7
Taxes**	122.8	125.8	130.4	132.8	134.0	136.3	140.1	144.1	147.9	151.6	155.5
Wage rates	119.1	122.4	126.2	130.6	135.2	139.8	144.6	149.5	154.5	159.7	165.0

*Interest per acre on farm real estate debt and interest rate on farm non-real estate debt.

**Farm real estate taxes payable per acre.

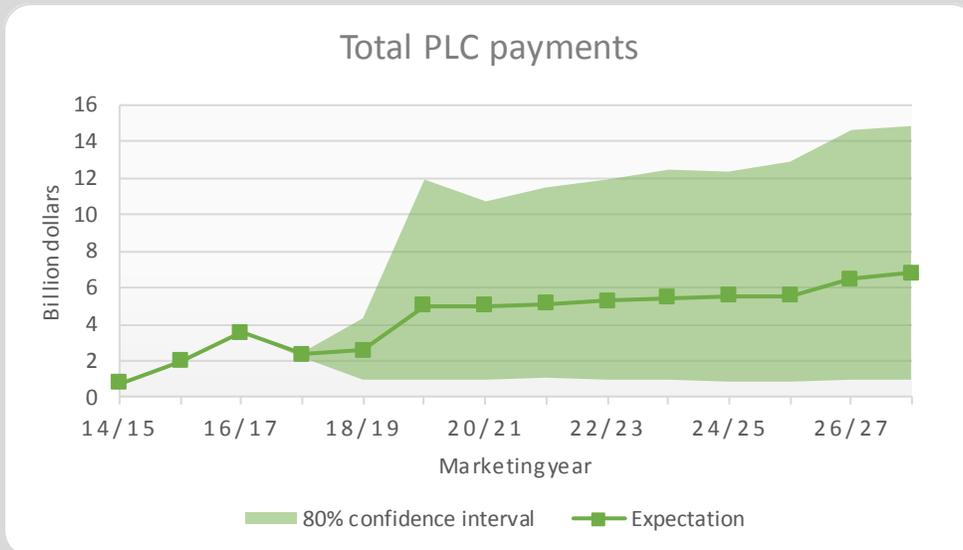
The Stochastic Baseline

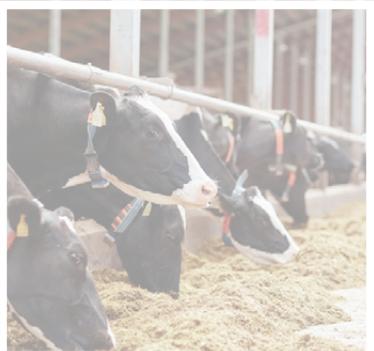
The March baseline is constructed to incorporate the uncertainty of projections. Any estimate of the future has a random component that can not be known ahead of time. As a result, a subset of the variables is allowed to be stochastic. This means that they contain a random effect. Since the models are interconnected, this leads to variability throughout the model. It is impossible to capture all uncertainty. Therefore, the stochastic baseline should not be treated as thoroughly capturing all risk.

While the tables present one number for each variable, there is actually a distribution behind each. Many of the paths for the variables appear flat as if there is little year over year change. This is because the expectation for each year is presented, which is the mean of the distribution. In reality, our models approximate an infinite number of outcomes.

The stochastic nature of the baseline can lead to interesting results. Consider the Price Loss Coverage (PLC) program that makes payments when the farm price falls below a reference price. Our expected farm price may be above the reference price. However, there is some probability that the price may fall below the reference price in the future. These outcomes are weighted into our expected PLC payments. As a result, our tables may show an expected PLC payment even when the expected farm price is above the reference price.

Anytime the farm price is above the reference price, the PLC payment is zero. However, if the inverse is true then the payment rate has a one-to-one relationship with the farm price. This creates an asymmetry in the distribution of PLC payments as the lower tail is limited at zero while the upper tail can be quite high. The Aggregate Indicators section includes a table with confidence interval information for several select variables.

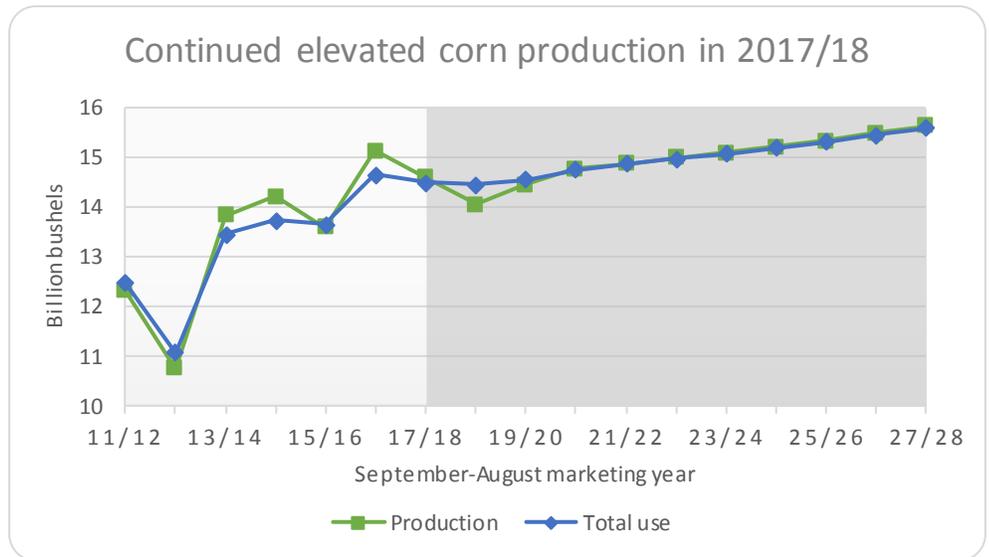




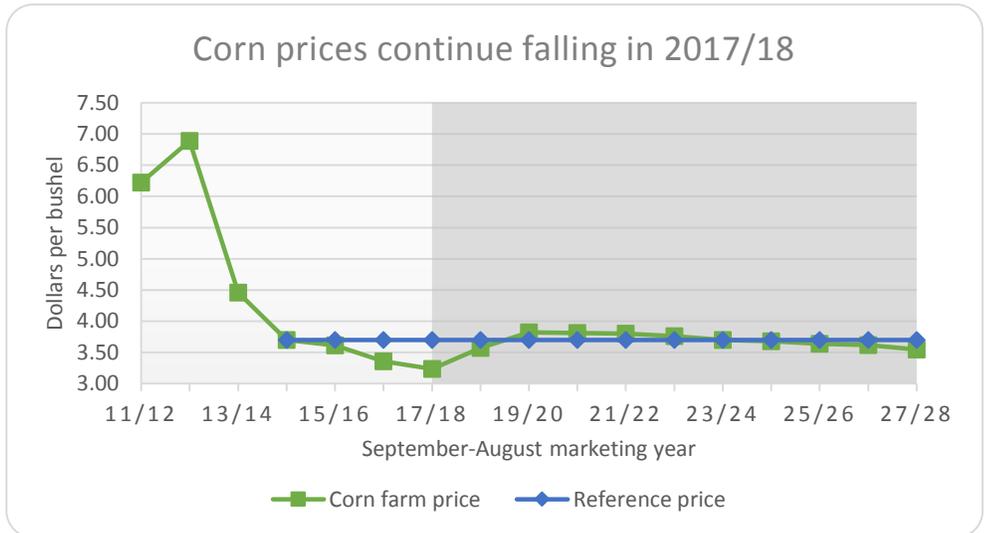
Grains

Corn

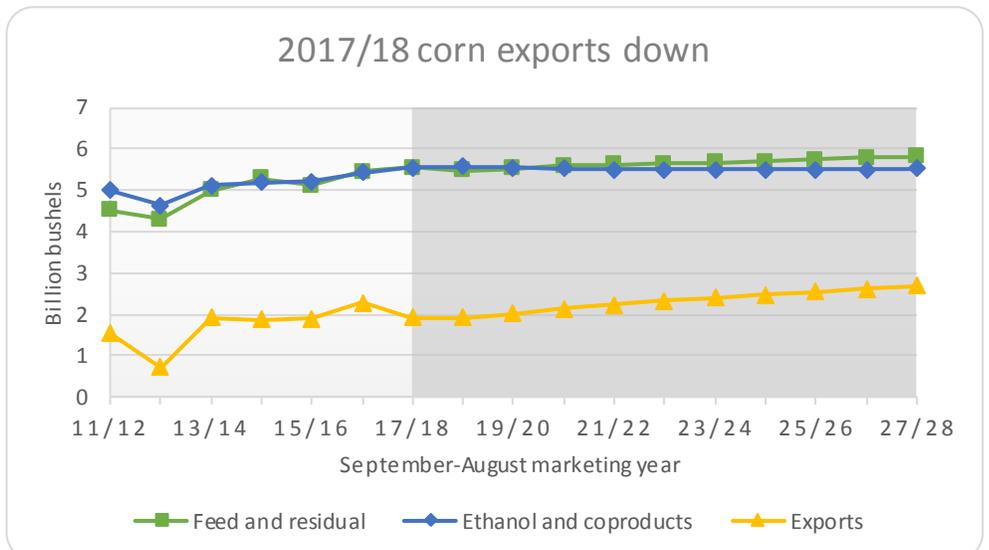
Although corn area fell in 2017, the second consecutive year of record yields resulted in the second highest level of corn production in the U.S. This has resulted in supply once again exceeding use sending stocks to even higher levels. A return to trend yields in 2018/19 could allow stocks to be drawn down.



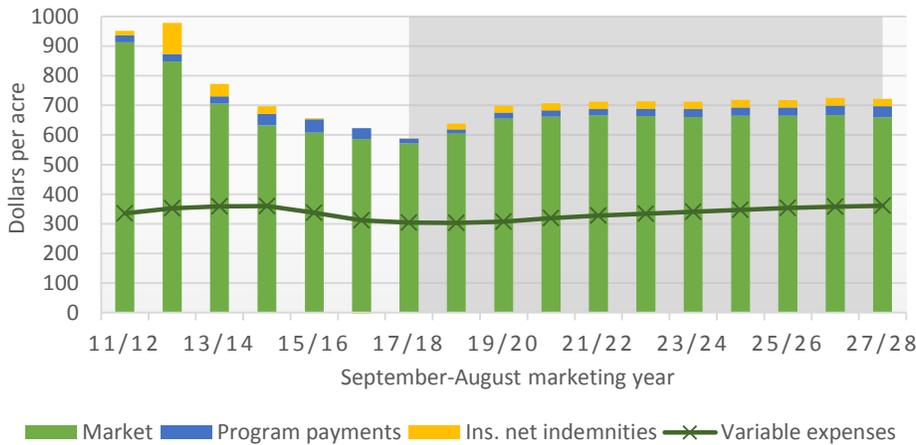
High stock levels have put continual downward pressure on corn prices. The 2017/18 corn farm price is projected to be \$3.23 per bushel, which is the lowest level since 2006/07. This is well below the reference price of \$3.70 that triggers PLC payments. If yields return to trend, farm prices should return closer to the reference price.



Low Brazilian yields in 2016 led to a temporary increase in U.S. exports. With increased production in Brazil and less domestic supplies, exports are expected to fall in 2017/18. The baseline was prepared in January before concerns about the Argentine crop emerged. This export path assumes no change in trade agreements. Ethanol use of corn increases in 2017/18 as foreign demand for U.S. ethanol leads to higher exports of the fuel.

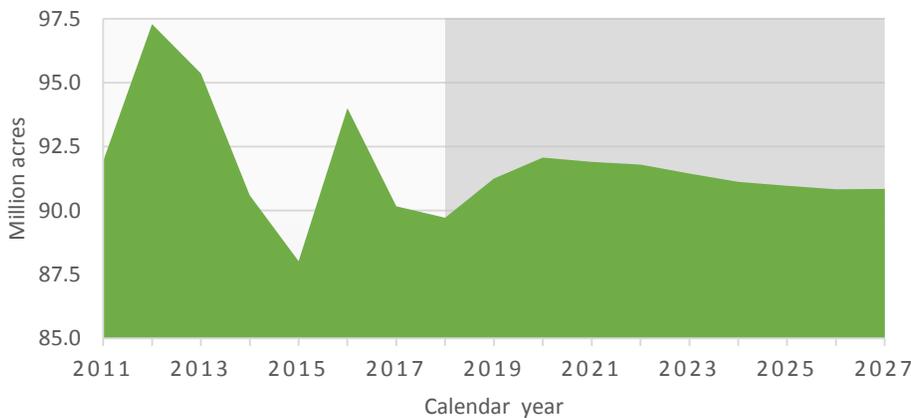


Corn returns experience modest growth



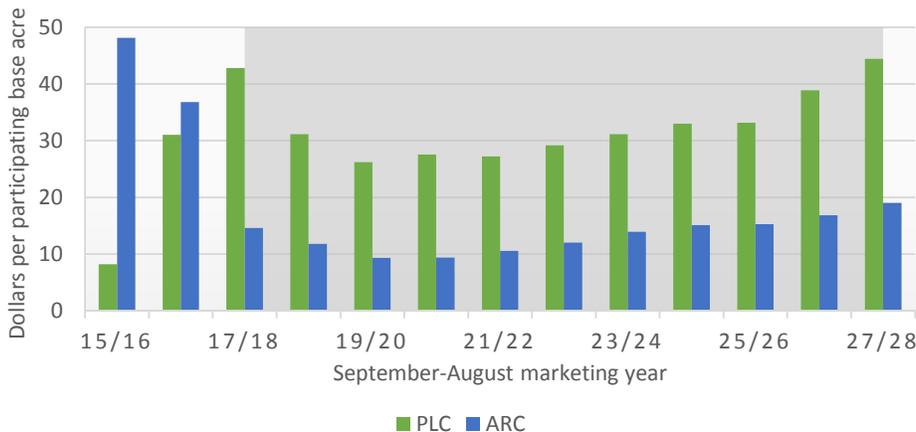
Continually decreasing prices have led to lower market returns. Strong yields have limited crop insurance payments although there have been ARC and PLC payments. Low oil prices have helped keep costs down. As projected prices increase in the future, so do market returns.

Corn planted remains flat in 2018



Strong soybean returns relative to corn help to keep corn planted area largely flat in 2018. The lower production allows some recovery in prices. This brings back some corn area in the projection period. However, the expected level remains well below the 2012 peak.

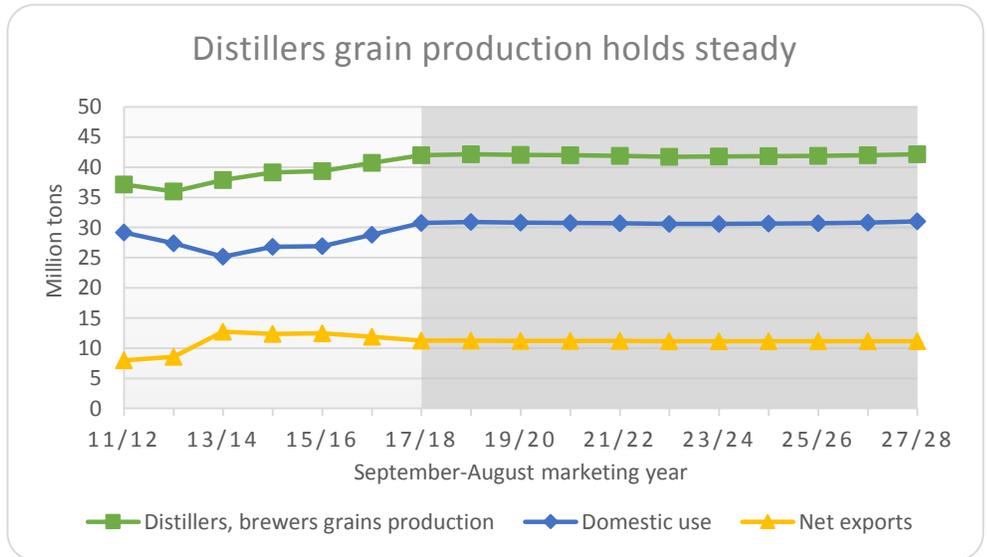
PLC payments surpass ARC payments for corn



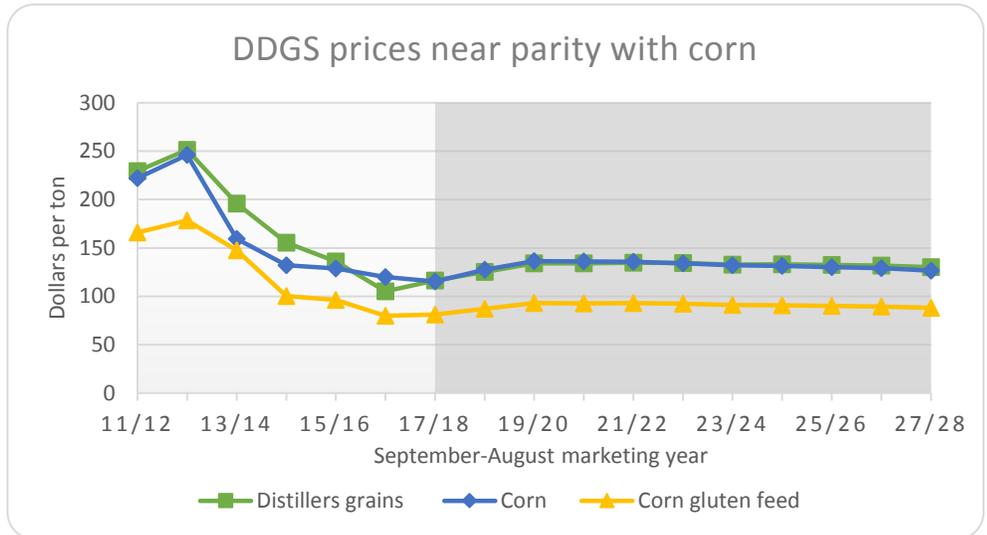
The corn ARC benchmark has shrunk with the lower prices. However, with corn prices near or below the reference price, expected corn PLC's have risen. Starting in 2017/18, average PLC payments exceed average ARC payments for corn. Producers are assumed to be able to make a new program choice in 2019, with 70 percent of base acreage electing PLC. The new PLC base acres have higher yields which raise the PLC yield from 115.9 to 131.8 bushels per acre.

Corn milling products

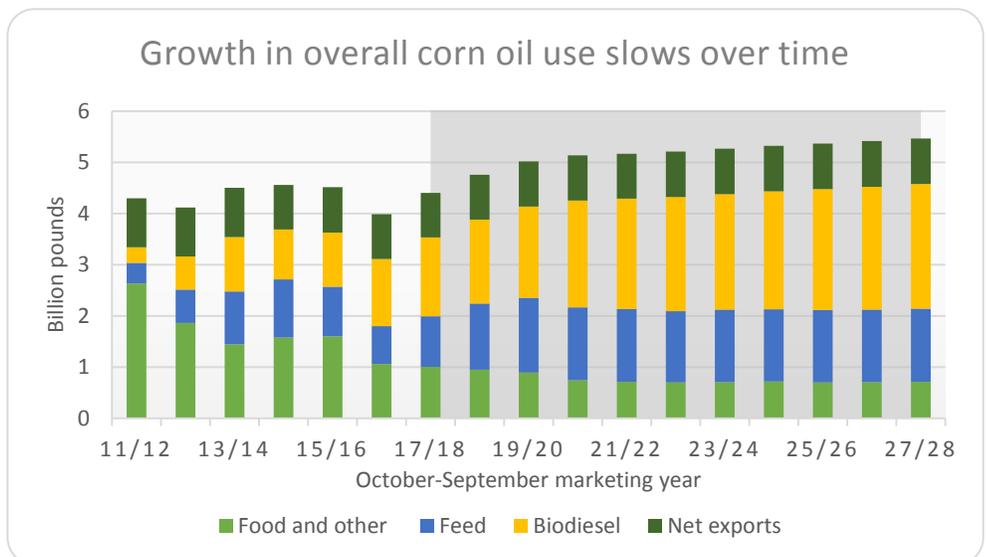
Distillers dried grains (DDGS) production follows the trajectory of dry mill ethanol production over the projection period and averages about 42 million tons. Most of this supply is absorbed by domestic use. DDGS net exports hold steady after declining somewhat in recent years due to import restrictions.



Prices for DDGS are projected to recover slightly in 2017/18 and continue following corn prices higher. Over the course of the projection period, DDGS prices are near parity with corn at \$131 per ton on average. The ratios of other corn product prices to the corn price are also estimated to remain fairly stable.



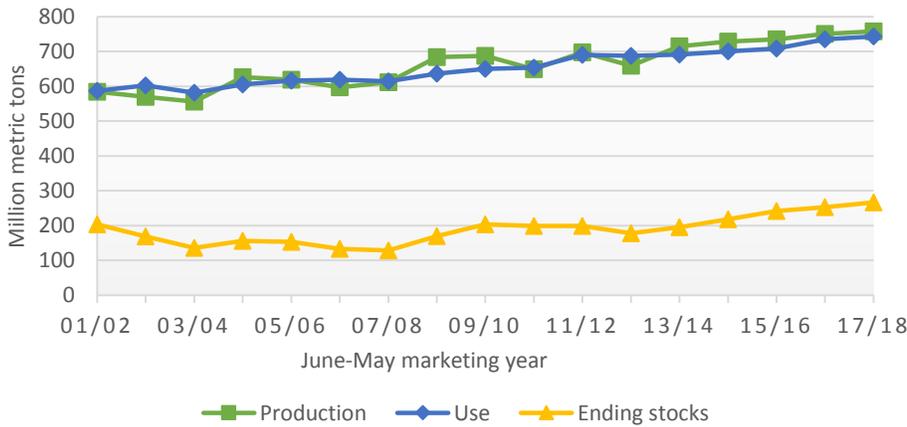
Total corn oil use is estimated to increase over the projection period to nearly 5.5 billion pounds. However, the growth slows over time. While food and residual use experiences a slight decline, biodiesel and feed uses of distillers corn oil expand over time.



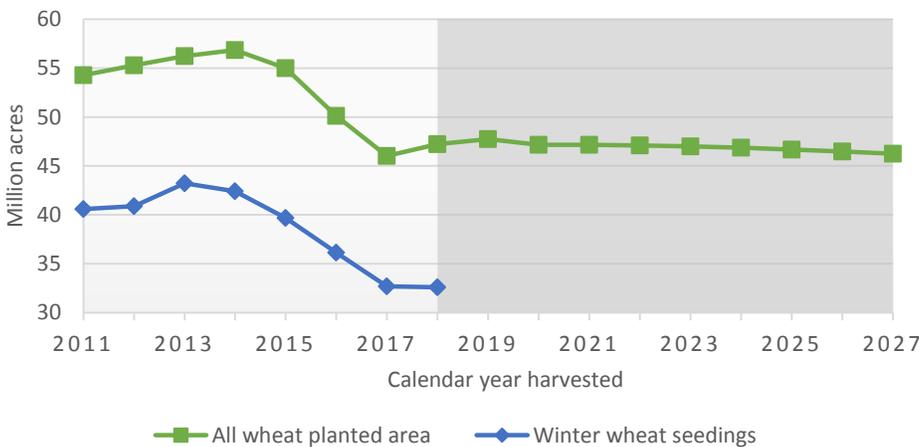
Wheat

World wheat production has exceeded use for the past five years, resulting in increasing stocks. This has been driven by high yields. The excess stocks have been weighing on wheat prices. The 2017 world wheat stocks to use ratio was 36 percent, up from 26 percent in 2012.

World wheat production exceeds use

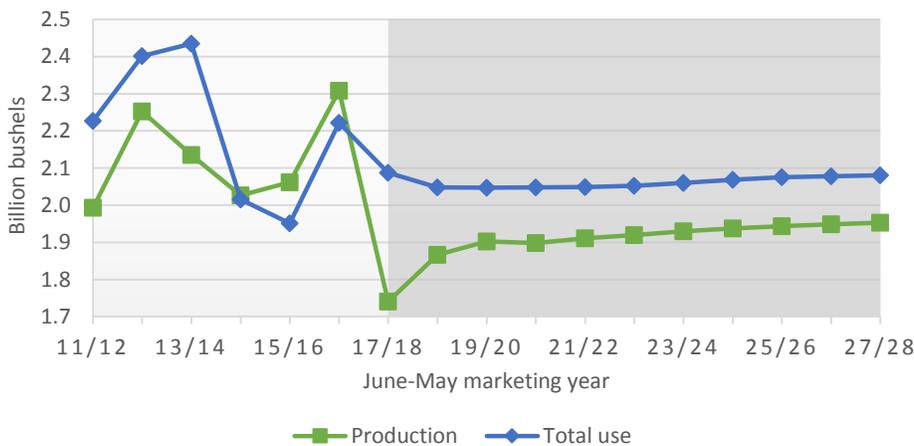


Winter wheat seedings almost unchanged



The 2017 U.S. all wheat plantings were the lowest since it has been recorded. The 2018 winter wheat seedings report indicated that 32.6 million acres of winter wheat were seeded as opposed to 32.7 million in 2017. However, spring wheat plantings are expected to be up leading to an increase of 1.2 million wheat acres in 2018.

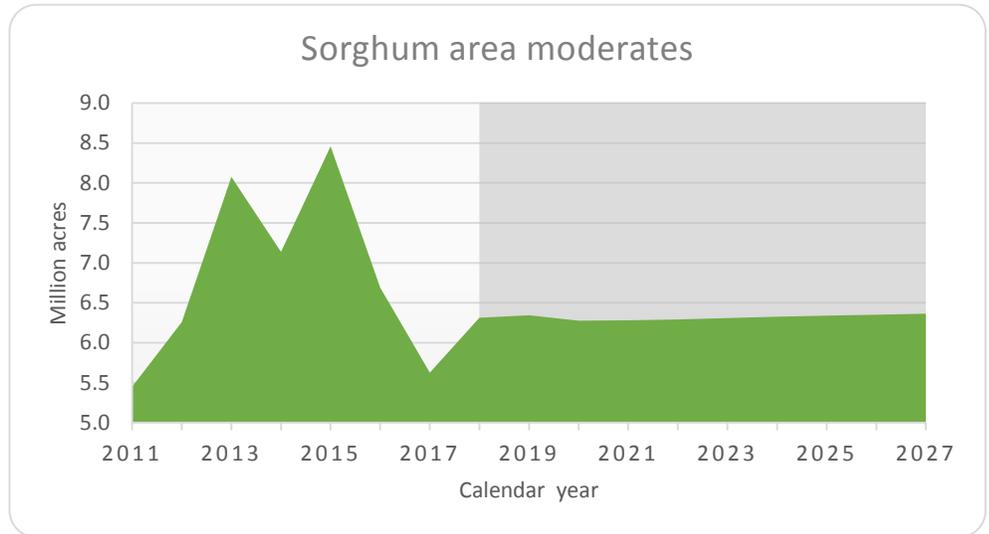
Wheat production drops sharply



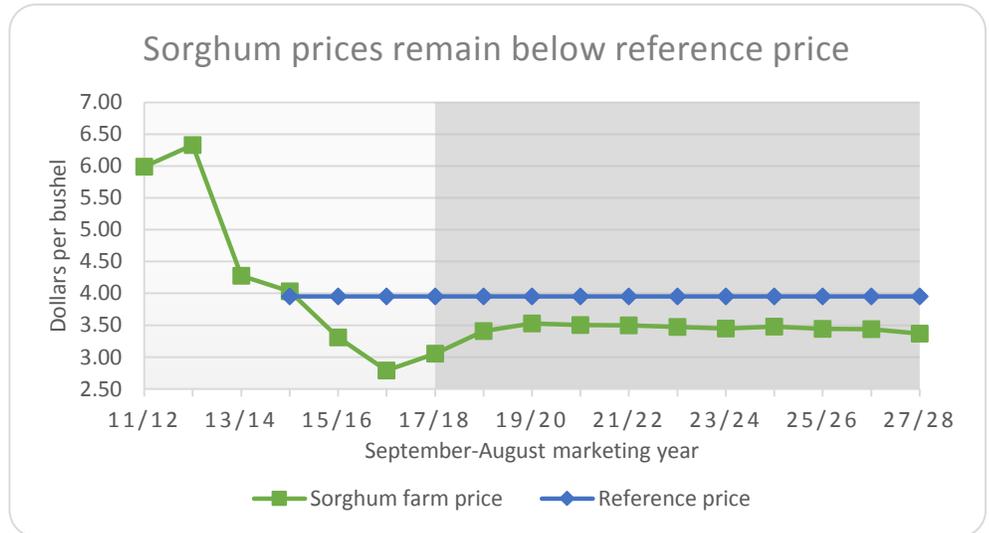
High U.S. yields in 2016 helped elevate production in that year. Most of the increase in 2016/17 use was in the exports and stocks categories. Lower yields and acreage in 2017 dramatically dropped production thereby reducing many of the gains in exports and stocks. The shortage of production relative to use is met by imports.

Sorghum

Sorghum area fell hard from 2015 to 2017 as sorghum prices declined by larger amounts than competing crops. Since then, sorghum prices have made some gains relative to the other crops allowing some return in acres for 2018, particularly in Texas and Kansas.

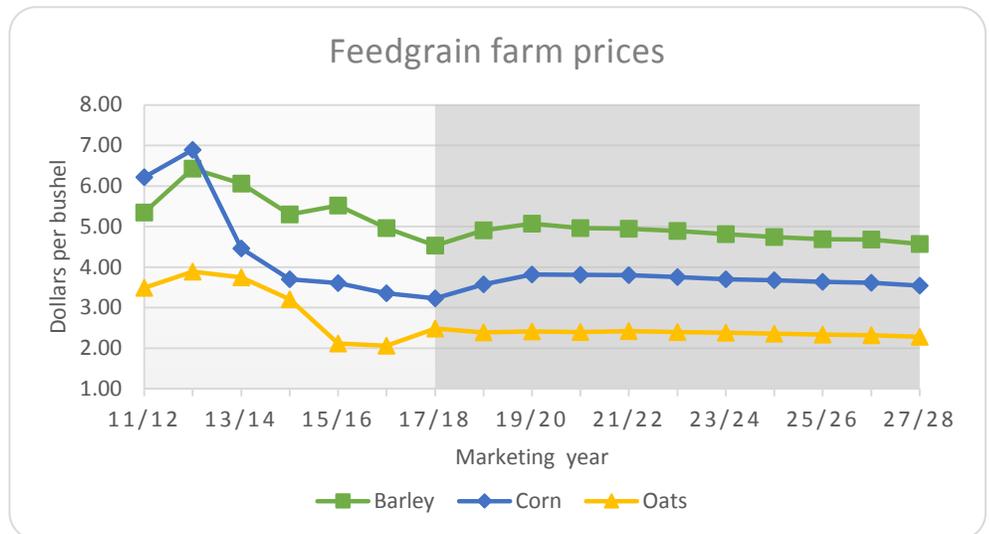


Average 2016/17 sorghum prices were down 55 percent from the 2012/13 peak. Although some recovery is occurring, lower grain prices keep the average farm price below the reference price every year in the baseline. This generates average annual PLC payments in the \$35 range per participating base acre.

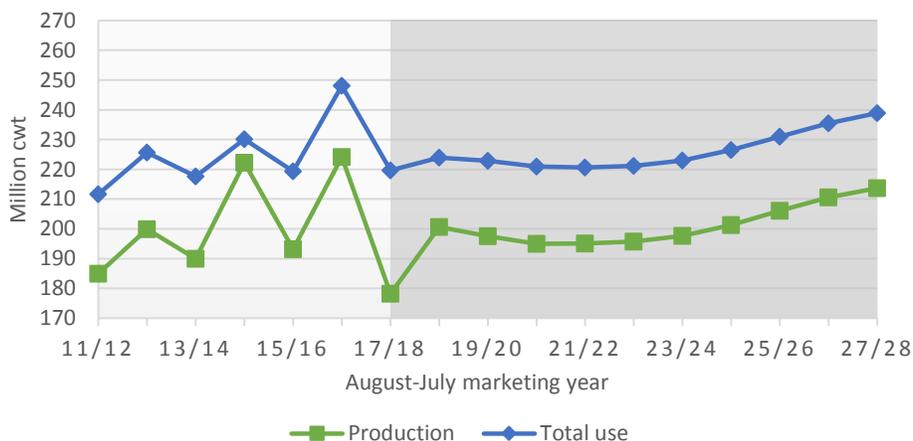


Barley and oats

Barley prices have exceeded corn prices since 2012/13. High malting barley prices had helped mitigate the drop in barley acreage, but those prices have weakened. The U.S. continues to be a large net importer of oats.



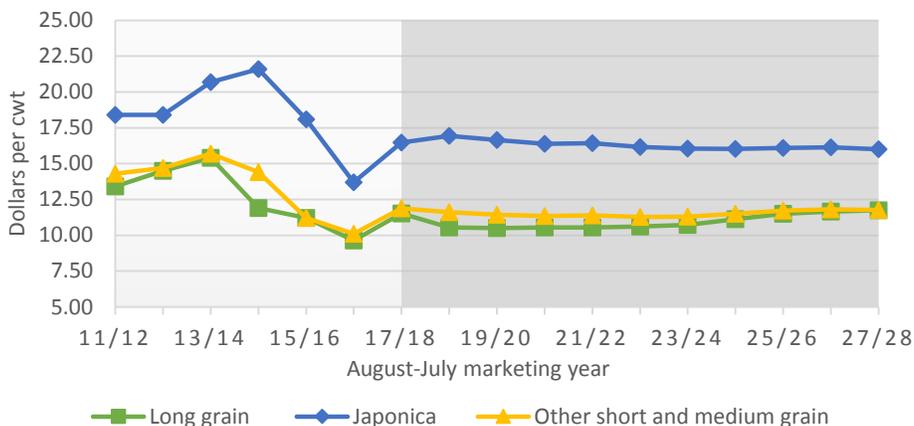
U.S. rice use greater than domestic production



Rice

U.S. rice production in 2016 was bolstered by an increase in acreage of long grain rice. The area in 2017 fell due to lower prices from large stocks. High yields in 2017 helped buffer production from the drop in area. The difference between total use and production is met by imports.

Rice farm prices



The bump in 2016/17 production pushed rice prices lower across the board. This reduced acreage in 2017/18 which allowed some price recovery. Long grain prices are low enough to trigger PLC payments, but prices for Japonica are not in most years.

Corn supply and use

September-August year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	90.2	89.7	91.3	92.1	91.9	91.8	91.4	91.1	91.0	90.8	90.8
Harvested area	82.7	82.3	83.7	84.5	84.4	84.2	83.9	83.6	83.5	83.3	83.4
Yield	(Bushels per harvested acre)										
	176.6	170.9	172.8	174.8	176.4	178.1	180.0	182.0	183.8	185.9	187.6
Supply	(Million bushels)										
Beginning stocks	16,947	16,561	16,616	16,887	17,066	17,248	17,424	17,616	17,805	18,026	18,265
Production	2,293	2,443	2,101	2,052	2,132	2,191	2,266	2,340	2,410	2,480	2,573
Imports	14,604	14,068	14,465	14,785	14,884	15,007	15,108	15,226	15,345	15,496	15,642
	50	50	50	50	50	50	50	50	50	50	50
Domestic use	12,581	12,532	12,554	12,617	12,632	12,657	12,689	12,735	12,782	12,838	12,911
Feed and residual	5,556	5,478	5,526	5,593	5,620	5,653	5,675	5,707	5,744	5,782	5,824
Ethanol and coproducts	5,556	5,578	5,552	5,537	5,515	5,495	5,494	5,497	5,496	5,503	5,523
HFCS	460	460	452	449	445	443	439	435	432	429	426
Seed	29	30	30	31	31	31	31	32	32	32	32
Food and other	980	986	994	1,008	1,022	1,036	1,050	1,064	1,078	1,092	1,106
Exports	1,923	1,928	2,009	2,138	2,243	2,325	2,394	2,470	2,543	2,615	2,688
Total use	14,504	14,460	14,564	14,755	14,875	14,982	15,084	15,205	15,325	15,453	15,599
Ending stocks	2,443	2,101	2,052	2,132	2,191	2,266	2,340	2,410	2,480	2,573	2,666
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	166	153	144	149	150	154	158	161	164	173	178
Other stocks	2,278	1,948	1,908	1,983	2,041	2,112	2,181	2,249	2,316	2,401	2,488
Prices, program provisions	(Dollars per bushel)										
Farm price	3.23	3.57	3.82	3.81	3.80	3.76	3.70	3.68	3.64	3.62	3.54
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Reference price	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Base area	(Million acres)										
	95.3	95.4	95.5	95.5	95.5	95.5	95.5	95.5	95.4	95.4	95.4
PLC program yield	(Bushels per acre)										
	115.9	115.9	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.8
PLC participation rate	(Percent of base acres)										
	7.1	7.1	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
ARC participation rate	92.9	92.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Returns and payments	(Dollars)										
Gross market revenue/a.	571.11	604.92	654.72	661.02	665.44	664.01	660.81	664.98	664.25	666.89	659.79
Variable expenses/a.	304.65	303.12	307.54	318.82	327.63	334.49	340.90	347.38	353.45	358.01	361.51
Market net return/a.	266.45	301.80	347.19	342.21	337.81	329.52	319.91	317.60	310.80	308.89	298.28
Marketing loan benefits/a.*	0.00	0.00	0.03	0.01	0.06	0.05	0.04	0.07	0.20	0.34	0.22
Payments to participants	(Dollars)										
PLC/base a.*	42.79	31.17	26.23	27.57	27.23	29.20	31.14	33.00	33.18	38.87	44.43
ARC/base a.*	14.60	11.82	9.33	9.38	10.56	12.01	13.95	15.09	15.29	16.84	19.01
Insurance net indemnities/a.*	0.44	20.28	21.68	22.96	24.12	24.83	25.38	25.50	25.56	25.16	24.85

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Corn product supply and use

Marketing year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
High-fructose corn syrup	(Thousand tons, Oct.-Sep. year)										
Production	8,283	8,284	8,161	8,127	8,064	8,041	7,986	7,937	7,900	7,851	7,813
Domestic use	6,998	6,856	6,612	6,498	6,372	6,349	6,257	6,156	6,070	5,955	5,851
Net exports	1,285	1,428	1,549	1,629	1,691	1,692	1,729	1,781	1,830	1,895	1,962
	(Cents per pound, Oct.-Sep. year)										
Price, 42% Midwest	33.61	35.06	35.38	36.18	36.38	37.08	37.32	37.73	38.12	38.42	38.76
HFCS price/ref. sugar price	111%	110%	112%	113%	114%	113%	113%	114%	114%	114%	115%
Distillers, brewers grains	(Thousand tons, Sep.-Aug. year)										
Production (dry equiv.)	41,963	42,140	42,017	41,965	41,858	41,746	41,772	41,832	41,873	41,972	42,170
Domestic use	30,736	30,908	30,810	30,773	30,681	30,577	30,612	30,668	30,729	30,827	31,030
Net exports	11,227	11,231	11,206	11,192	11,178	11,168	11,161	11,164	11,144	11,145	11,139
	(Dollars per ton, Sep.-Aug. year)										
Price, IL points	116.52	125.37	134.02	134.20	134.92	134.34	132.82	132.97	132.53	131.76	130.17
DDGS price/corn price	101%	98%	98%	99%	99%	100%	101%	101%	102%	102%	103%
Corn gluten feed	(Thousand tons, Sep.-Aug. year)										
Production	9,469	9,484	9,398	9,373	9,343	9,338	9,340	9,340	9,334	9,330	9,335
Domestic use	8,468	8,527	8,485	8,485	8,481	8,499	8,522	8,548	8,565	8,585	8,612
Net exports	1,001	957	913	888	862	839	817	793	769	745	724
	(Dollars per ton, Sep.-Aug. year)										
Price, 21%, IL points	81.15	87.22	92.90	92.81	93.00	92.27	91.01	90.79	90.18	89.50	88.17
CGF price/corn price	70%	68%	68%	68%	68%	69%	69%	69%	69%	69%	70%
Corn gluten meal	(Thousand tons, Sep.-Aug. year)										
Production	2,492	2,496	2,473	2,467	2,459	2,457	2,458	2,458	2,456	2,455	2,457
Domestic use	1,612	1,608	1,580	1,561	1,542	1,530	1,517	1,507	1,494	1,481	1,471
Net exports	880	888	894	906	916	928	940	951	962	974	985
	(Dollars per ton, Sep.-Aug. year)										
Price, 60%, IL points	475.07	483.37	502.17	500.86	503.47	501.54	496.18	495.81	494.61	489.18	486.47
CGM price/soymeal price	153%	152%	151%	151%	151%	151%	151%	151%	152%	152%	152%
Corn oil	(Million pounds, Oct.-Sep. year)										
Production	4,428	4,777	5,029	5,138	5,175	5,214	5,270	5,325	5,370	5,418	5,472
Domestic use	3,532	3,882	4,139	4,256	4,289	4,325	4,380	4,435	4,475	4,524	4,575
Biodiesel	1,539	1,641	1,786	2,091	2,153	2,230	2,257	2,305	2,358	2,402	2,435
Feed	989	1,293	1,460	1,420	1,422	1,392	1,418	1,412	1,414	1,415	1,427
Food/other	1,005	948	893	745	714	702	705	718	703	707	713
Net exports	874	876	877	877	881	884	887	887	890	892	894
Ending stocks	115	133	146	150	155	160	164	166	170	173	177
	(Cents per pound, Oct.-Sep. year)										
Chicago price	43.28	43.17	43.37	44.10	43.45	42.69	42.53	42.96	42.36	42.41	42.16
Corn oil price/soyoil price	129%	129%	130%	129%	130%	131%	131%	131%	132%	132%	132%

All projections are averages across 500 stochastic outcomes.

Wheat supply and use

June-May year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	46.0	47.2	47.7	47.2	47.2	47.1	47.0	46.9	46.7	46.5	46.2
Harvested area	37.6	39.9	40.2	39.8	39.8	39.7	39.6	39.5	39.3	39.1	38.9
Yield	(Bushels per harvested acre)										
	46.3	46.7	47.2	47.6	48.0	48.3	48.6	49.0	49.3	49.7	50.1
Supply	(Million bushels)										
Beginning stocks	3,070	2,990	2,984	2,976	2,980	2,991	3,010	3,028	3,045	3,060	3,076
Production	1,181	983	942	937	928	930	939	950	960	970	981
Imports	1,741	1,867	1,902	1,898	1,911	1,920	1,930	1,937	1,943	1,949	1,953
	149	140	139	141	141	141	141	142	141	141	141
Domestic use	1,113	1,142	1,161	1,166	1,170	1,169	1,175	1,176	1,183	1,186	1,192
Feed and residual	100	126	142	143	142	138	140	136	140	139	141
Seed	62	63	62	62	61	61	61	61	60	60	60
Food and other	951	954	957	962	966	970	974	979	983	987	991
Exports	975	906	886	882	880	883	885	893	892	892	888
Total use	2,087	2,048	2,047	2,048	2,049	2,052	2,060	2,068	2,075	2,078	2,080
Ending stocks	983	942	937	928	930	939	950	960	970	981	996
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	28	30	31	30	30	30	31	32	33	33	34
Other stocks	955	912	907	898	900	909	918	928	937	948	961
Prices, program provisions	(Dollars per bushel)										
Farm price	4.68	4.89	4.95	5.03	5.04	5.02	4.96	4.97	4.90	4.85	4.80
Loan rate	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Reference price	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Base area	(Million acres)										
	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.2	62.2
PLC program yield	(Bushels per acre)										
	37.8	37.8	40.0	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1
PLC participation rate	(Percent of base acres)										
	43.9	43.9	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
ARC participation rate	56.1	56.1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Returns and payments	(Dollars)										
Gross market revenue/a.	216.59	227.64	232.83	238.66	240.50	241.43	240.54	242.54	240.83	240.61	239.95
Variable expenses/a.	107.67	109.85	112.27	116.56	120.25	123.20	126.01	128.77	131.33	133.33	135.11
Market net return/a.	108.92	117.79	120.56	122.10	120.25	118.23	114.54	113.77	109.50	107.29	104.85
Marketing loan benefits/a.*	0.00	0.26	0.97	0.80	0.62	0.84	0.90	1.44	1.25	1.48	1.75
Payments to participants	(Dollars)										
PLC/base a.*	24.67	22.49	24.08	23.44	23.20	23.54	24.30	25.11	26.28	27.14	30.41
ARC/base a.*	13.75	9.50	8.18	8.15	8.57	8.24	8.85	9.13	9.50	9.90	10.39
Insurance net indemnities/a.*	9.29	11.53	12.90	13.15	13.79	14.05	14.27	14.37	14.47	14.51	14.28

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Sorghum supply and use

September-August year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	5.63	6.31	6.34	6.28	6.28	6.29	6.31	6.33	6.34	6.35	6.36
Harvested area	5.05	5.76	5.78	5.72	5.72	5.74	5.74	5.76	5.78	5.78	5.79
Yield	(Bushels per harvested acre)										
	72.1	67.5	67.9	68.4	68.5	68.6	68.8	68.9	69.2	69.3	69.5
Supply and use	(Million bushels)										
Production	364	390	394	393	394	395	397	399	402	402	404
Imports	2	2	2	2	2	2	2	2	2	2	2
Domestic use	117	150	161	163	162	161	160	158	160	159	161
Exports	258	244	234	232	232	235	238	242	243	243	245
Ending stocks	24	23	23	24	25	26	26	27	28	30	30
Prices, returns and payments	(Dollars)										
Farm price/bu.	3.06	3.41	3.53	3.50	3.50	3.48	3.45	3.48	3.44	3.44	3.37
Reference price/bu.	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95
Market net return/a.	93.22	98.54	105.01	99.24	95.49	90.61	86.50	85.23	80.99	77.69	72.30
Marketing loan benefits/a.*	0.00	0.03	0.09	0.08	0.10	0.12	0.13	0.11	0.18	0.28	0.13
Payments to participants											
PLC/base a.*	42.94	30.75	27.96	29.98	29.16	29.78	30.14	29.94	30.32	32.15	36.15
ARC/base a.*	9.13	4.41	2.98	3.73	4.74	5.12	4.84	5.18	4.84	4.78	5.26
Insurance net indemnities/a.*	2.70	16.35	17.92	17.80	18.03	17.85	17.47	17.46	17.64	17.35	17.42

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Barley supply and use

June-May year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	2.48	2.81	2.94	2.82	2.70	2.66	2.59	2.51	2.44	2.39	2.36
Harvested area	1.95	2.36	2.46	2.37	2.27	2.24	2.18	2.11	2.05	2.01	1.98
Yield	(Bushels per harvested acre)										
	72.6	74.1	74.6	75.4	76.5	77.5	78.4	79.4	80.3	81.2	82.0
Supply and use	(Million bushels)										
Production	142	175	184	179	174	173	171	168	165	163	163
Imports	16	23	27	25	27	28	30	30	32	33	34
Domestic use	197	194	202	198	196	195	194	193	191	190	190
Exports	5	5	4	5	5	5	4	5	4	4	4
Ending stocks	62	61	66	67	67	68	71	71	73	74	77
Prices, returns and payments	(Dollars)										
All barley farm price/bu.	4.53	4.91	5.07	4.96	4.95	4.89	4.81	4.74	4.69	4.68	4.57
Feed barley price/bu.	2.94	3.25	3.44	3.38	3.37	3.33	3.27	3.23	3.19	3.18	3.10
Reference price/bu.	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Market net return/a.	161.18	194.89	204.93	193.32	191.41	187.77	182.32	176.91	173.27	172.88	165.01
Marketing loan benefits/a.*	0.00	0.04	0.17	0.09	0.16	0.32	0.30	0.31	0.37	0.86	0.82
Payments to participants											
PLC/base a.*	18.56	15.11	13.51	16.21	16.85	16.89	19.18	20.29	21.48	23.96	27.74
ARC/base a.*	15.76	5.85	4.31	4.83	4.66	4.72	6.79	7.22	7.53	8.30	9.27
Insurance net indemnities/a.*	6.75	8.17	9.51	9.71	9.87	9.74	9.64	9.54	9.49	9.52	9.50

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Oats supply and use

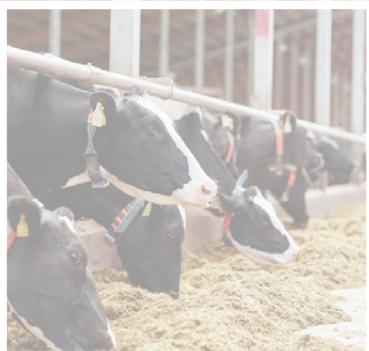
June-May year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	2.59	2.79	2.73	2.68	2.68	2.71	2.73	2.75	2.75	2.77	2.79
Harvested area	0.80	1.00	0.98	0.96	0.96	0.97	0.98	0.98	0.98	0.99	0.99
Yield	(Bushels per harvested acre)										
	61.7	65.6	66.0	66.5	66.8	67.3	67.6	67.9	68.2	68.6	69.2
Supply and use	(Million bushels)										
Production	49	66	65	64	65	65	66	67	67	68	69
Imports	100	101	101	100	100	98	98	97	96	95	94
Domestic use	167	164	164	162	162	162	161	161	161	160	160
Exports	2	2	2	2	2	2	2	2	2	2	2
Ending stocks	31	32	32	32	32	32	33	33	33	34	34
Prices, returns and payments	(Dollars)										
Farm price/bu.	2.48	2.40	2.42	2.40	2.42	2.40	2.38	2.36	2.34	2.32	2.29
Reference price/bu.	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Market net return/a.	28.16	29.67	30.47	25.74	24.34	20.64	17.33	13.93	9.90	7.81	4.97
Marketing loan benefits/a.*	0.00	0.07	0.13	0.11	0.23	0.22	0.28	0.25	0.31	0.38	0.49
Payments to participants											
PLC/base a.*	0.00	6.48	7.93	7.90	8.42	8.20	8.72	9.12	9.78	10.08	11.46
ARC/base a.*	5.69	2.66	1.61	1.35	1.06	1.27	1.72	1.65	1.76	1.81	1.93
Insurance net indemnities/a.*	4.25	1.54	1.65	1.67	1.71	1.73	1.66	1.63	1.69	1.60	1.65

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Rice supply and use

August-July year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	2.46	2.65	2.59	2.54	2.52	2.51	2.51	2.54	2.57	2.61	2.62
Harvested area	2.38	2.59	2.53	2.48	2.46	2.45	2.45	2.48	2.51	2.55	2.56
Yield	(Pounds per harvested acre)										
	7,501	7,755	7,811	7,871	7,938	7,998	8,057	8,130	8,198	8,266	8,347
Supply and use	(Million hundredweight)										
Production	178.2	200.6	197.5	194.9	195.1	195.7	197.6	201.3	206.1	210.5	213.6
Imports	24.6	24.5	24.6	24.8	25.0	25.3	25.5	25.8	26.0	26.2	26.4
Domestic use	118.9	124.7	125.7	126.5	127.7	128.4	129.3	129.7	130.3	131.1	131.9
Exports	100.7	99.2	97.2	94.4	92.9	92.7	93.6	96.8	100.7	104.3	107.0
Ending stocks	28.6	29.8	29.1	27.8	27.3	27.1	27.3	27.9	29.0	30.3	31.5
Program provisions	(Dollars per hundredweight)										
Loan rate	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Reference price											
Long grain	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Japonica	16.10	16.10	16.10	16.10	16.10	16.10	16.10	16.10	16.10	16.10	16.10
Other medium/short	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Base area	(Million acres)										
Long grain	4.09	4.10	4.09	4.09	4.09	4.09	4.09	4.09	4.10	4.10	4.10
Medium/short	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Countercyclical/PLC yield	(Pounds per acre)										
Long grain	6,019	6,019	5,925	5,925	5,925	5,925	5,925	5,926	5,926	5,926	5,926
Medium/short	7,099	7,098	7,098	7,098	7,098	7,099	7,099	7,099	7,099	7,099	7,099
PLC participation rate	(Percent of base acres)										
Long grain	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
Medium/short	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
ARC participation rate											
Long grain	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Medium/short	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.6
Prices, returns and payments	(Dollars)										
Farm price/cwt	12.31	11.59	11.46	11.41	11.42	11.40	11.44	11.74	12.03	12.14	12.19
Long grain	11.53	10.55	10.50	10.54	10.55	10.61	10.72	11.13	11.50	11.65	11.75
Japonica	16.47	16.94	16.65	16.38	16.42	16.15	16.04	16.02	16.10	16.14	15.99
Other medium/short	11.87	11.61	11.44	11.35	11.38	11.29	11.30	11.49	11.71	11.80	11.76
Gross market revenue/a.	923.47	898.42	895.05	898.25	906.17	911.43	921.90	954.12	986.14	1003.50	1017.45
Variable expenses/a.	550.39	554.91	562.77	584.13	601.30	617.27	632.20	647.07	660.60	672.58	683.70
Market net return/a.	373.08	343.51	332.28	314.11	304.87	294.15	289.70	307.05	325.54	330.91	333.75
Marketing loan benefits/a.*	0.00	9.19	9.21	7.21	6.69	7.86	6.71	5.05	3.65	1.98	2.82
Payments to participants											
PLC/base a.*	108.09	153.37	154.42	153.38	153.97	151.20	146.85	131.08	118.02	113.13	117.75
ARC/base a.*	27.89	25.99	29.29	26.91	29.93	32.84	35.59	34.73	30.88	32.06	37.72
Insurance net indemnities/a.*	61.93	16.59	16.24	16.39	16.51	16.72	16.76	16.79	16.98	17.14	17.29

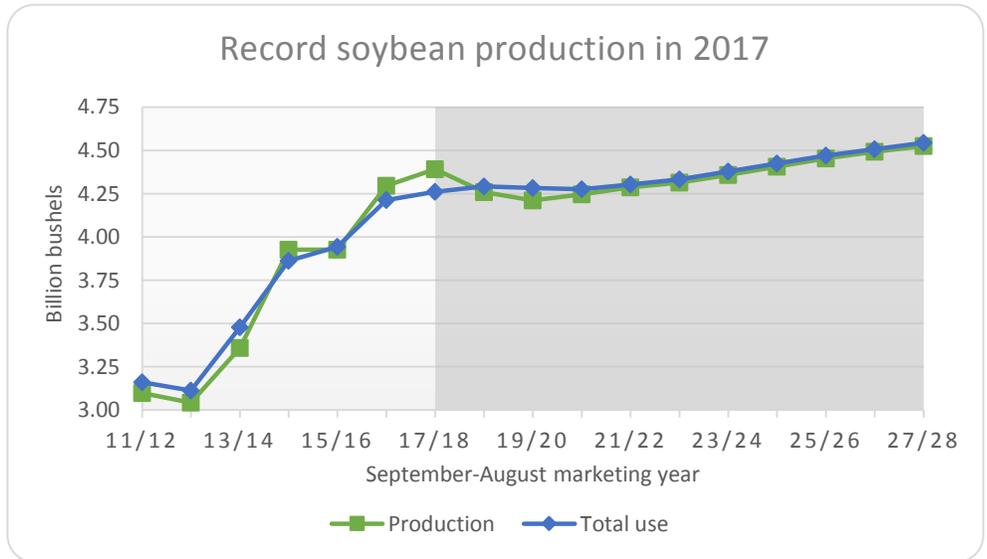
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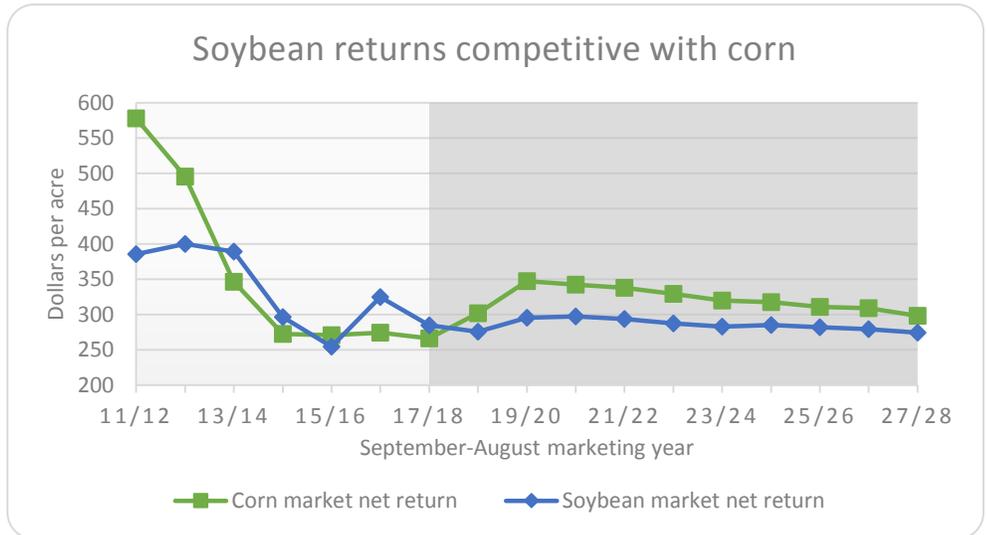
Oilseeds

Soybeans and products

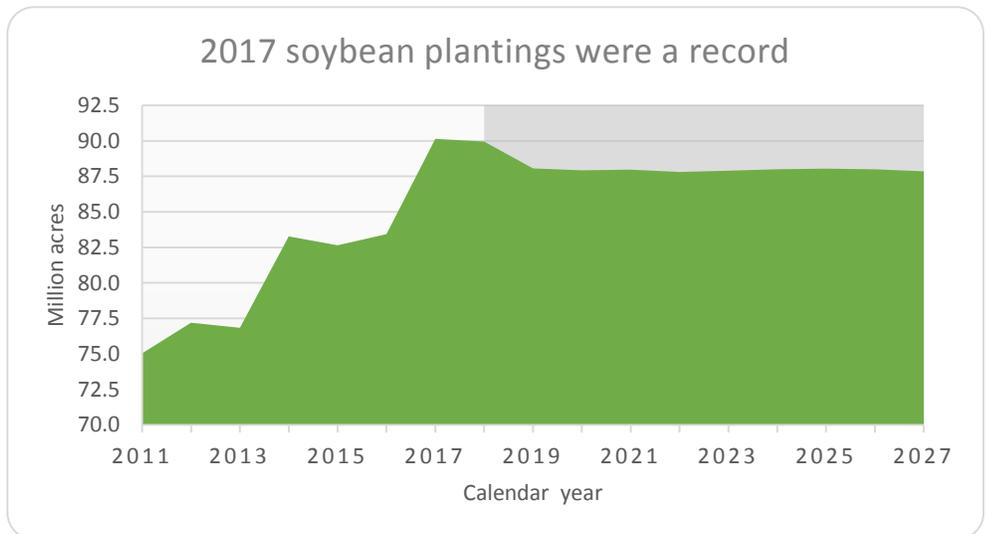
Soybean production has been a record three out of the past four years. This has been achieved through both high yields and increased area. Area is expected to stay flat in 2018, but a return to trend yields would allow production to fall. Soybean area is expected to remain high throughout the projection period.



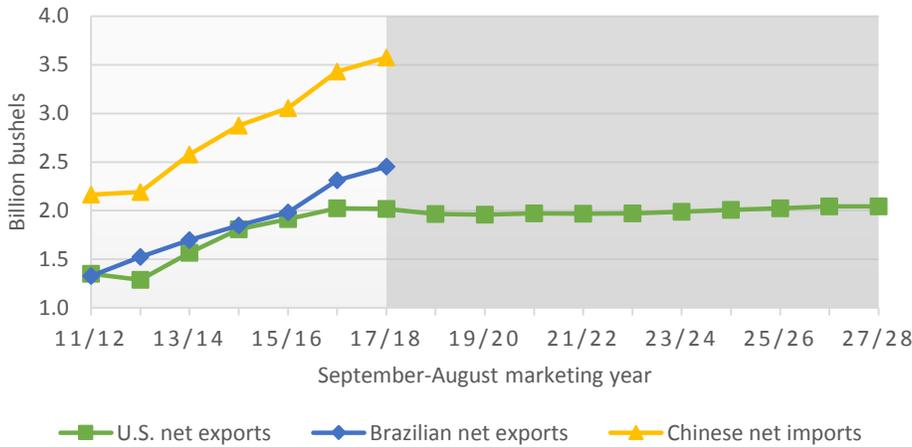
Soybean returns in 2016/17 and 2017/18 exceed those for corn. Soybean prices have remained high in the past few years relative to corn. As market dynamics play out, the long-run pattern of national corn returns exceeding those of soybeans is expected to return.



The spike in recent soybean returns led to a record number of soybean planted acres in 2017. Soybean acres are expected to exceed corn acres in 2018 for the first time. However, as profits wane, soybean acreage falls in subsequent years. Even so, average soybean area remains at least 87 million acres which had never occurred before 2017.



Soybean exports dependent on China and Brazil



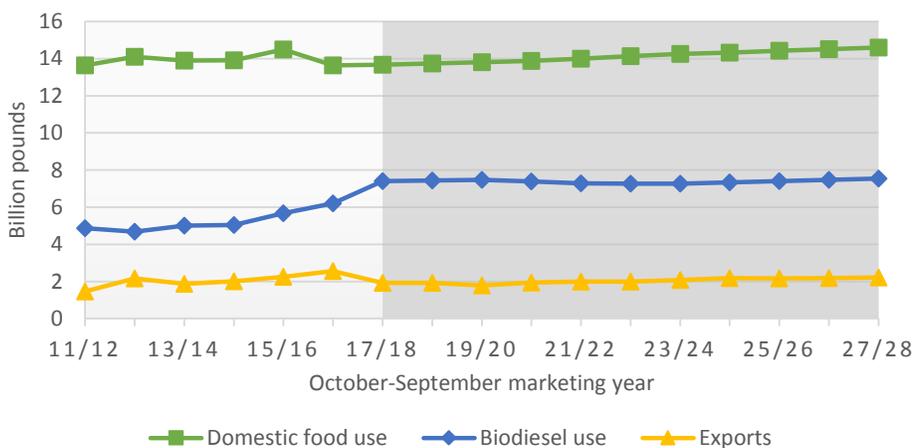
The growing demand for soybeans in China has largely been met by a corresponding increase in Brazilian exports. China accounted for 61 percent of U.S. soybean exports in 2016/17. This was 31 percent of U.S. production that year. Although the baseline has moderately increasing exports, this assumption is reliant on stable trade relationships and average weather conditions around the world.

Soybean ending stocks jump sharply, again



Soybean ending stocks jumped sharply for the second straight year. High production levels resulted in increased carry-over levels. With continued expectations of large soybean crops, ending stocks remain high in the baseline.

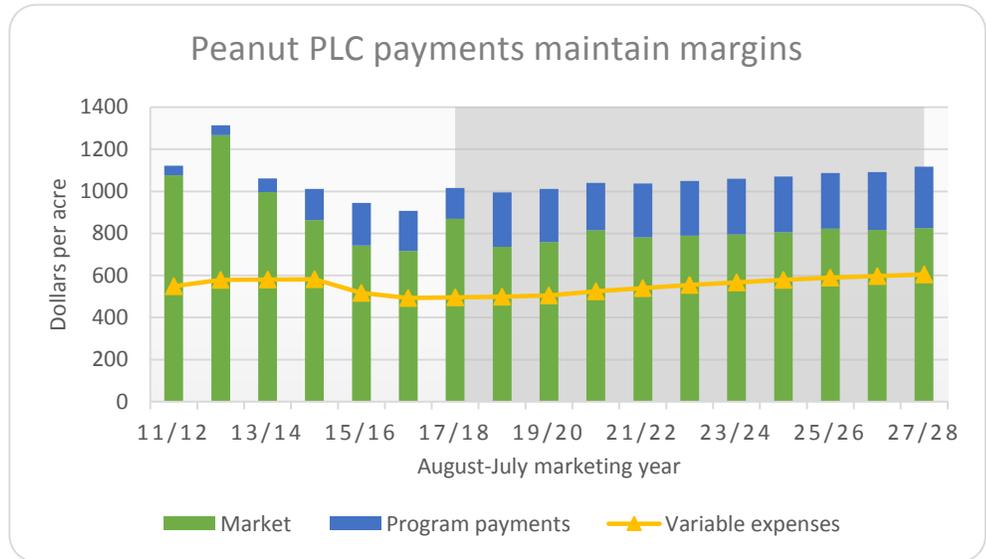
Soybean oil for biodiesel experiences growth



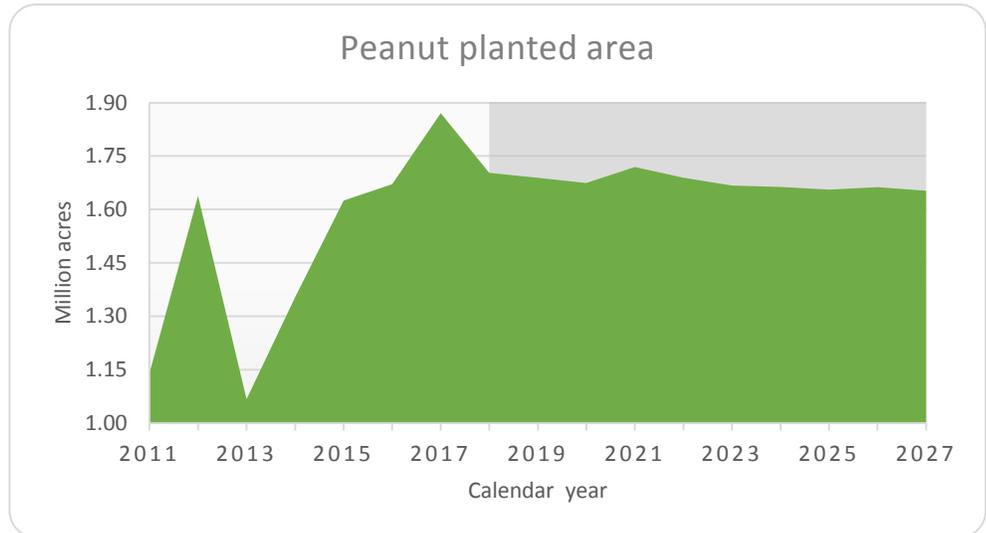
In 2017/18 a sharp increase in domestic biodiesel demand is met primarily with soybean oil. Use of other fats and oils for biodiesel is expected to put pressure on soybean oil use for biodiesel. Soybean oil food consumption increases slightly with population growth, as the decline in per capita consumption slows.

Peanuts

Market revenues in 2017/18 are up due to high early contracted prices and high yields. However, peanut farm prices are still well below the reference price, creating large PLC payments. Producers enrolled 99.7 percent of peanut base acres in PLC.

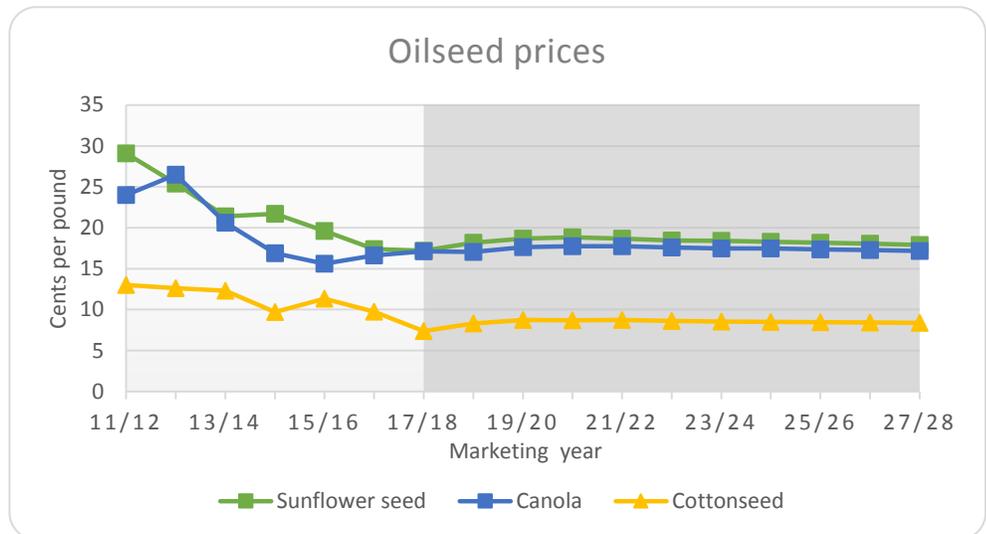


Until passage of the Bipartisan Budget Act of 2018 (BBA), generic base acres were eligible for the payments corresponding to the crops grown on them. Peanuts have been planted on many generic base acres. In 2015 through 2017 total plantings have been quite high in part due to generic base acres. The baseline does not incorporate the provisions of the BBA. The BBA will likely result in reduced peanut acreage than that shown here.



Other oilseeds

Average sunflower seed and canola prices remain below the reference price of 20.2 cents per pound. Canola area in the U.S. has been increasing sharply in the past several years with a record high in 2017. Cottonseed prices average less than 9.0 cents per pound through the projection period. This commodity is not a program commodity eligible for PLC or ARC payments, but does figure into seed cotton prices under provisions of the Bipartisan Budget Act.



Soybean supply and use

September-August year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	90.1	90.0	88.1	87.9	88.0	87.8	87.9	88.0	88.0	88.0	87.9
Harvested area	89.5	89.1	87.3	87.1	87.2	87.0	87.1	87.2	87.3	87.2	87.1
Yield	(Bushels per harvested acre)										
	49.1	47.8	48.3	48.7	49.2	49.6	50.0	50.5	51.0	51.5	52.0
Supply	(Million bushels)										
Beginning stocks	302	457	449	402	396	405	410	415	423	431	441
Production	4,392	4,259	4,212	4,246	4,287	4,314	4,359	4,407	4,454	4,494	4,526
Imports	25	25	25	25	25	25	25	25	25	25	25
Domestic use	2,092	2,111	2,111	2,114	2,127	2,139	2,157	2,176	2,194	2,210	2,229
Crush	1,953	1,976	1,978	1,980	1,991	2,001	2,017	2,035	2,050	2,065	2,082
Seed and residual	139	135	133	134	136	138	140	142	143	145	147
Exports	2,169	2,182	2,173	2,162	2,176	2,194	2,222	2,248	2,277	2,299	2,316
Total use	4,261	4,293	4,284	4,277	4,303	4,334	4,379	4,424	4,471	4,508	4,544
Ending stocks	457	449	402	396	405	410	415	423	431	441	448
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	12	14	13	13	14	15	16	17	17	19	20
Other stocks	446	435	389	383	391	394	399	406	413	423	429
Prices, program provisions	(Dollars per bushel)										
Farm price	9.23	9.38	9.75	9.81	9.75	9.63	9.51	9.53	9.44	9.34	9.22
Illinois processor price	9.58	9.73	10.10	10.15	10.09	9.98	9.86	9.88	9.79	9.70	9.58
Loan rate	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Reference price	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40
Base area	(Million acres)										
	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
PLC program yield	(Bushels per acre)										
	35.7	35.7	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4
PLC participation rate	(Percent of base acres)										
	3.2	3.2	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
ARC participation rate	96.8	96.8	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Returns and payments	(Dollars)										
Gross market revenue/a.	452.56	443.90	466.06	473.63	474.63	472.49	471.82	477.60	477.73	477.21	474.97
Variable expenses/a.	168.00	167.96	170.40	176.10	180.78	185.07	188.83	192.43	195.46	198.05	200.47
Market net return/a.	284.56	275.94	295.66	297.53	293.84	287.42	282.99	285.16	282.27	279.17	274.50
Marketing loan benefits/a.*	0.00	0.09	0.12	0.02	0.14	0.10	0.06	0.13	0.05	0.11	0.26
Payments to participants	(Dollars)										
PLC/base a.*	0.00	9.04	9.16	8.67	9.91	11.50	10.81	11.11	11.04	12.65	14.20
ARC/base a.*	9.44	8.77	6.74	6.01	7.23	7.50	8.84	8.78	8.76	9.22	10.09
Insurance net indemnities/a.*	-1.59	15.03	14.95	15.53	15.99	16.20	16.39	16.57	16.67	16.60	16.26
Crush margin	(Dollars per bushel)										
	1.63	1.66	1.66	1.66	1.68	1.66	1.65	1.67	1.66	1.64	1.68

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre.

All projections are averages across 500 stochastic outcomes.

Soybean oil supply and use

October-September year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	(Million pounds)										
Supply	24,569	24,722	24,787	24,924	25,070	25,249	25,491	25,730	25,918	26,127	26,346
Beginning stocks	1,711	1,554	1,600	1,712	1,726	1,789	1,847	1,882	1,892	1,934	1,954
Production	22,558	22,868	22,888	22,912	23,044	23,160	23,344	23,548	23,727	23,894	24,092
Imports	300	300	300	300	300	300	300	300	300	300	300
Domestic use	21,088	21,192	21,284	21,264	21,284	21,406	21,527	21,661	21,825	21,987	22,146
Biodiesel	7,406	7,443	7,467	7,385	7,279	7,277	7,274	7,333	7,398	7,481	7,549
Food and other	13,682	13,749	13,817	13,879	14,005	14,129	14,254	14,328	14,427	14,506	14,598
Exports	1,927	1,930	1,791	1,934	1,997	1,996	2,082	2,178	2,160	2,187	2,214
Total use	23,015	23,122	23,075	23,198	23,281	23,402	23,609	23,838	23,985	24,174	24,360
Ending stocks	1,554	1,600	1,712	1,726	1,789	1,847	1,882	1,892	1,934	1,954	1,985
	(Cents per pound)										
Price											
Decatur	33.42	33.35	33.40	34.08	33.35	32.53	32.37	32.82	32.16	32.21	31.94

All projections are averages across 500 stochastic outcomes.

Soybean meal supply and use

October-September year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	(Thousand tons)										
Supply	46,892	47,462	47,502	47,547	47,822	48,062	48,443	48,866	49,235	49,580	49,991
Beginning stocks	401	342	340	336	341	343	347	353	356	360	364
Production	46,166	46,796	46,836	46,886	47,156	47,394	47,771	48,188	48,554	48,895	49,301
Imports	325	325	325	325	325	325	325	325	325	325	325
Domestic use	34,352	35,833	36,304	36,618	36,784	37,016	37,280	37,542	37,885	38,341	38,633
Exports	12,199	11,289	10,862	10,588	10,695	10,699	10,811	10,967	10,991	10,874	10,990
Total use	46,550	47,122	47,166	47,206	47,479	47,715	48,090	48,509	48,876	49,216	49,623
Ending stocks	342	340	336	341	343	347	353	356	360	364	368
	(Dollars per ton)										
Price											
Decatur, 48% protein	311.14	318.00	333.37	332.08	334.05	332.31	327.71	327.29	326.14	321.47	319.10

All projections are averages across 500 stochastic outcomes.

Peanut supply and use

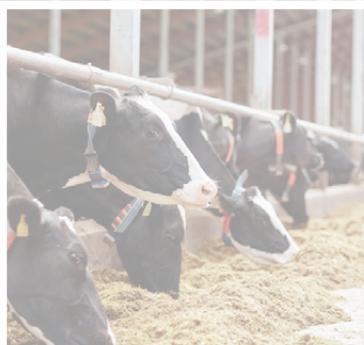
August-July year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	1.87	1.70	1.69	1.67	1.72	1.69	1.67	1.66	1.66	1.66	1.65
Harvested area	1.78	1.61	1.60	1.59	1.63	1.60	1.58	1.58	1.57	1.58	1.57
Yield	(Pounds per harvested acre)										
Yield	4,074	3,999	4,059	4,120	4,178	4,231	4,284	4,336	4,395	4,450	4,506
Supply and use	(Million pounds)										
Production	7,234	6,449	6,497	6,540	6,814	6,775	6,767	6,836	6,902	7,018	7,061
Imports	125	125	125	125	125	125	125	125	125	125	125
Domestic use	5,005	5,036	5,066	5,061	5,168	5,219	5,269	5,328	5,370	5,432	5,479
Exports	1,393	1,463	1,482	1,471	1,531	1,557	1,580	1,604	1,621	1,651	1,671
Ending stocks	2,402	2,476	2,551	2,685	2,925	3,049	3,092	3,121	3,158	3,218	3,254
Prices, returns and payments	(Dollars)										
Farm price/ton	426.46	369.67	375.92	397.63	375.40	374.59	372.96	372.85	376.14	367.96	367.20
Reference price/ton	535.00	535.00	535.00	535.00	535.00	535.00	535.00	535.00	535.00	535.00	535.00
Market net return/a.	373.39	236.98	254.36	290.01	240.86	234.69	228.62	226.02	233.50	218.27	219.69
Marketing loan benefits/a.*	0.00	40.35	42.25	36.57	45.56	52.24	54.42	54.93	57.88	60.51	62.19
Payments to participants											
PLC/base a.*	148.35	219.31	210.19	189.57	210.53	209.22	210.12	211.05	206.89	215.44	231.18
ARC/base a.*	47.18	62.07	53.82	44.53	51.26	56.26	56.26	57.49	57.11	60.38	60.59

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.

Sunflower seed supply and use

September-August year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	1.40	1.47	1.46	1.45	1.45	1.43	1.43	1.43	1.43	1.43	1.43
Harvested area	1.34	1.36	1.35	1.34	1.34	1.32	1.32	1.32	1.32	1.32	1.32
Yield	(Pounds per harvested acre)										
Yield	1,613	1,620	1,627	1,640	1,648	1,652	1,664	1,674	1,684	1,693	1,704
Supply and use	(Million pounds)										
Production	2,169	2,203	2,204	2,202	2,207	2,192	2,201	2,220	2,228	2,237	2,247
Imports	190	190	190	190	190	190	190	190	190	190	190
Domestic use	2,354	2,308	2,272	2,258	2,248	2,221	2,213	2,228	2,227	2,235	2,233
Exports	206	85	122	133	146	158	175	178	188	189	200
Ending stocks	386	385	384	385	388	389	392	396	399	402	405
Prices, returns and payments	(Dollars)										
Farm price/lb.	0.172	0.182	0.187	0.188	0.187	0.184	0.184	0.183	0.182	0.180	0.179
Market net return/a.	137.07	152.47	161.26	164.85	158.48	151.55	149.66	147.33	143.56	140.10	137.22
Marketing loan benefits/a.*	0.00	0.14	0.00	0.09	0.14	0.06	0.22	0.02	0.18	0.16	0.20
Payments to participants											
PLC/base a.*	32.21	26.52	23.00	22.17	23.21	24.89	25.04	24.76	26.74	27.41	31.86
ARC/base a.*	8.60	7.34	7.68	7.76	8.11	7.62	7.76	7.92	8.47	8.61	9.31

*Marketing loan benefits and insurance net indemnities are averaged across all acres. PLC and ARC payments are per participating acre. All projections are averages across 500 stochastic outcomes.



Other crops

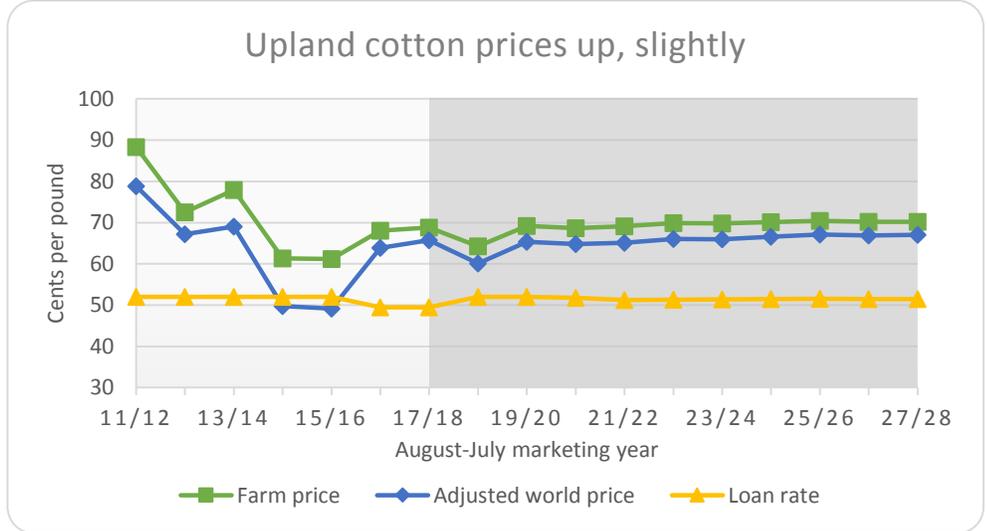
Upland cotton

The Bipartisan Budget Act and cotton

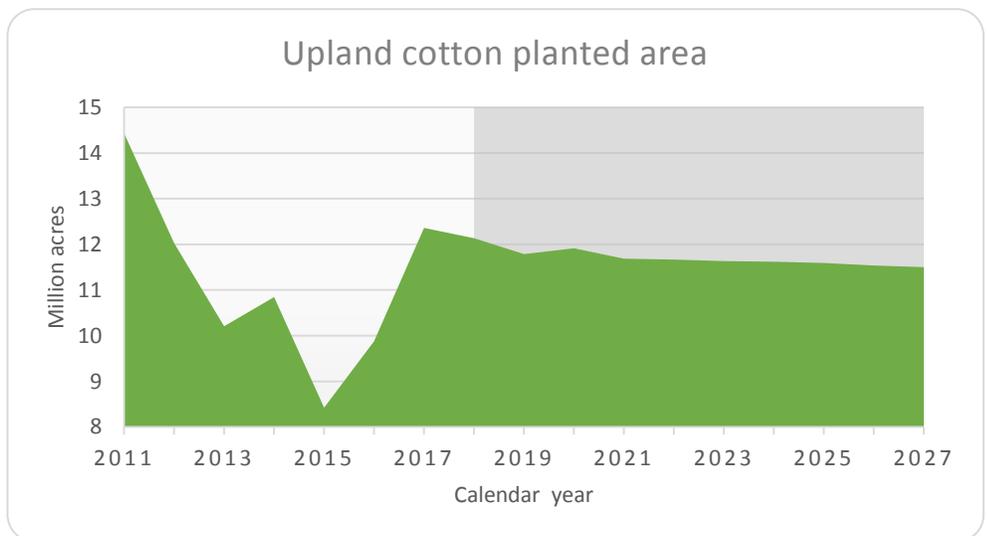
The Bipartisan Budget Act (BBA) became public law on February 9, 2018. It effectively eliminated the STAX crop insurance program and generic base acres and replaced them with a new commodity called seed cotton. Seed cotton is the pre-ginned crop that includes both the seed and lint. Unfortunately, due to the timeline of the baseline, there was not enough time to incorporate the new programs into the baseline. The cotton programs assumed here are those established in the 2014 farm bill.

The BBA established a reference price for feed cotton of \$0.367 per pound. Preliminary calculations indicate that the expected 2018/19 seed cotton price would be around \$0.31 per pound and \$0.34 per pound thereafter. Total spending on the commodity will also depend upon PLC yields and allocated base acres.

China continues to be the main source of uncertainty in world cotton markets. Policy choices have led to very large Chinese stocks, which are over one year's worth of domestic use. This inventory has hung over world prices for several years. Recently, China has begun a drawdown of stocks which has helped alleviate the low prices. However, prices still remain low by historical standards.



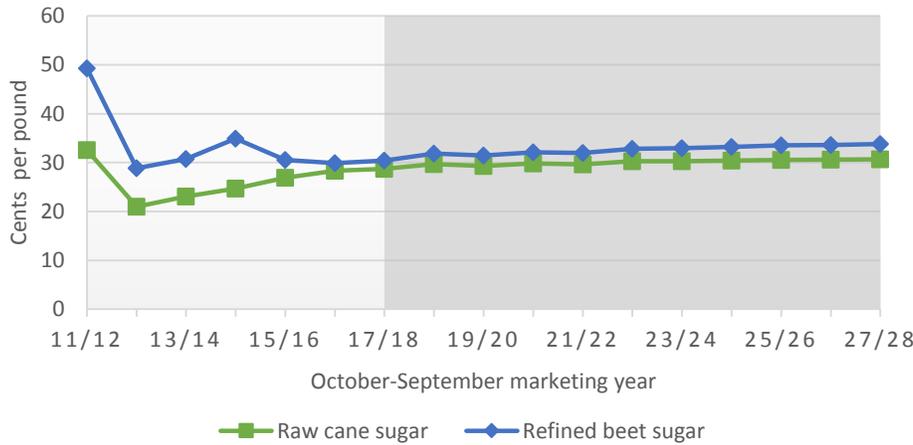
The low upland cotton prices have forced many acres away from the crop. Returns in 2016 and 2017 saw some recovery which helped bring upland cotton acres up from 2015 levels. Incorporating the BBA could impact U.S. cotton acres with the elimination of generic base acres and payments correlated to producer returns.



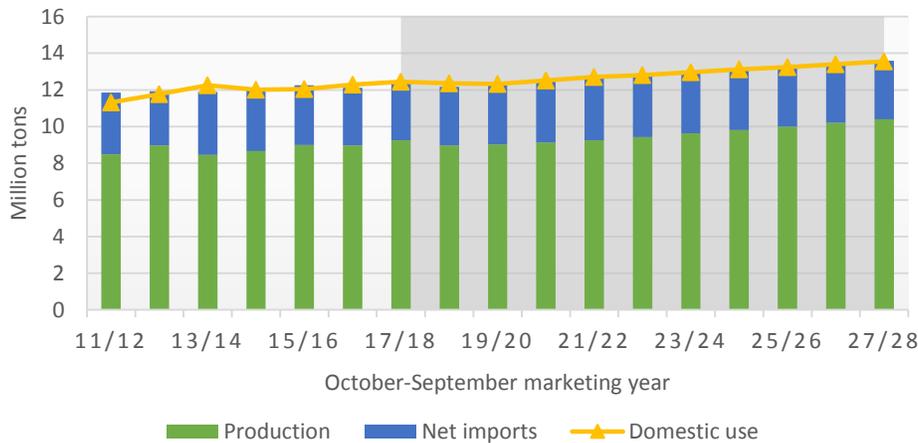
Sugar

Raw and refined sugar prices hold steady around 30 and 33 cents per pound, respectively. These prices are well above the loan rates but remain below the prices experienced in 2011/12.

Sugar prices tick upward slightly

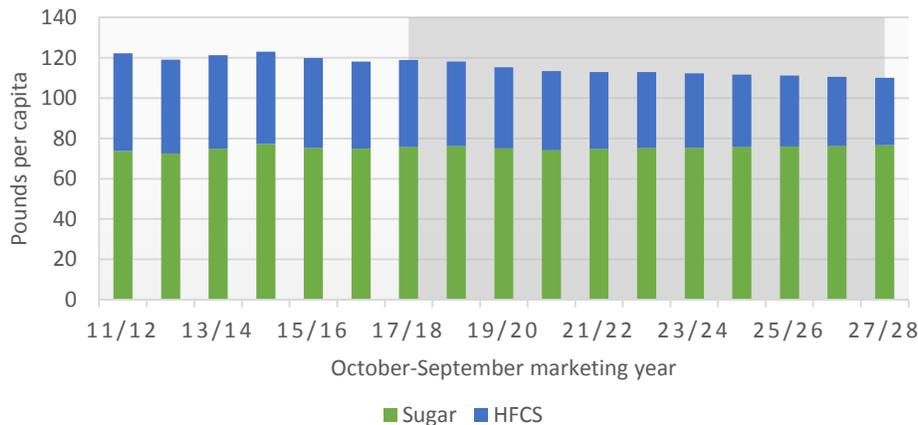


U.S. sugar production keeping pace with use



Domestic sugar use in total is projected to reach 13.5 million tons by 2027/28. Sugar imports remain fairly flat assuming no major changes to current trade policy. This leaves rising domestic production to fill consumer demand.

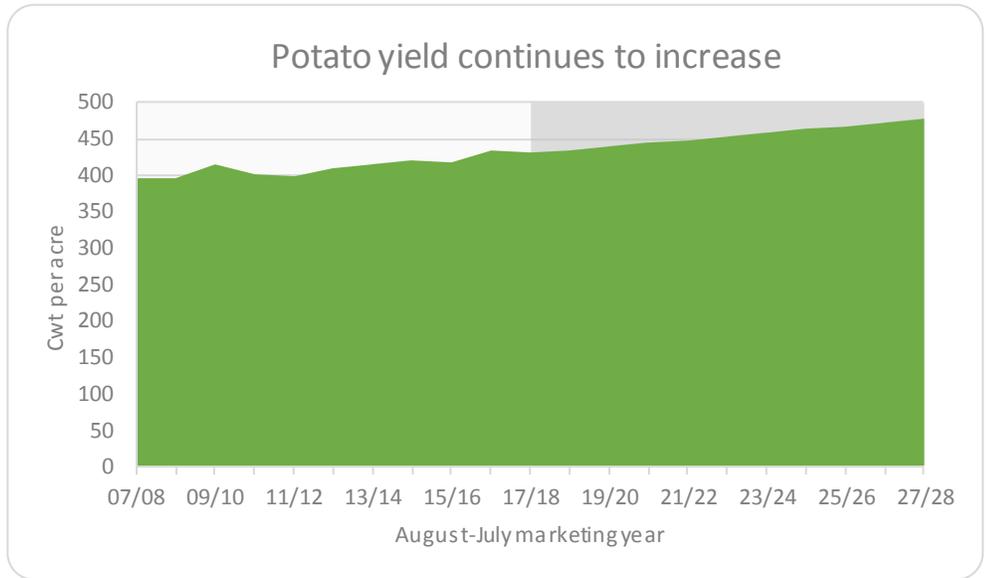
Domestic per-capita sweetener use falls slightly



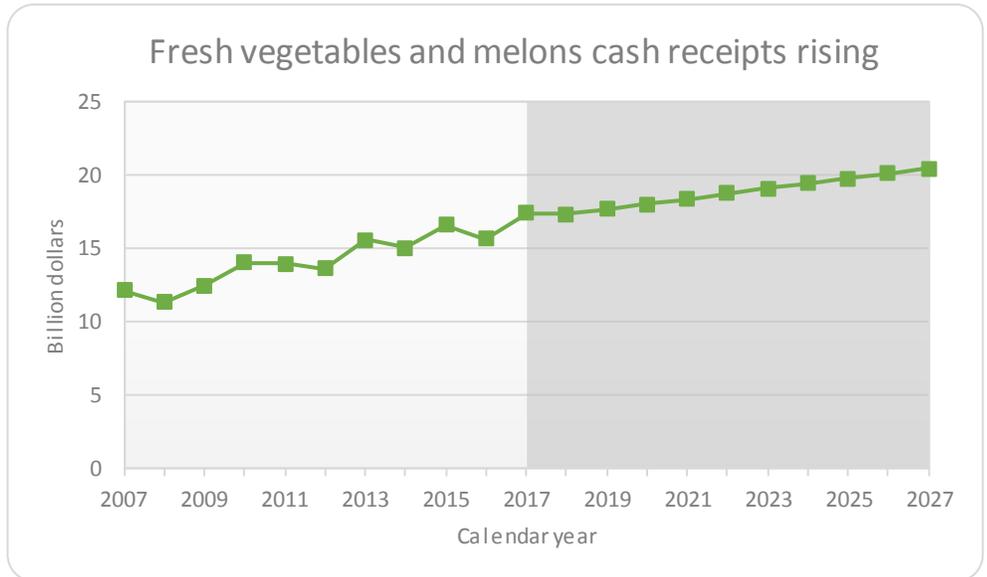
As per capita sweetener use is projected to decline, the share attributed to sugar is estimated to rise while the share of high-fructose corn syrup (HFCS) continues to shrink.

Potato, fresh vegetables, fruits and nuts

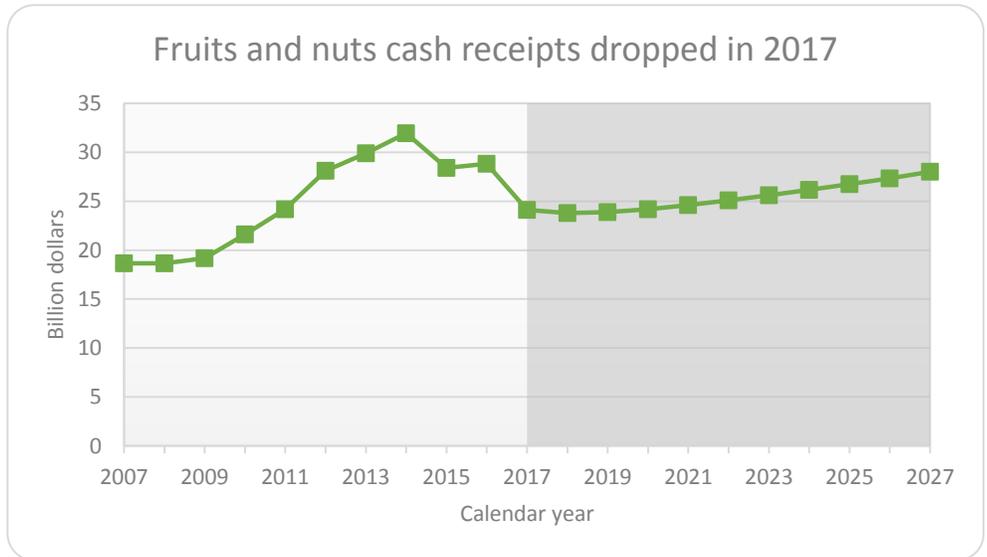
The potato yield declined slightly in 2017/18 to 430 cwt per acre. Overall, the yield has been increasing steadily at an average growth rate of 1 percent annually and is expected to continue to rise over the projection period. Area planted in 2017/18 declined compared to the previous year, putting upward pressure on prices. Growth in both imports and exports is projected to remain strong.



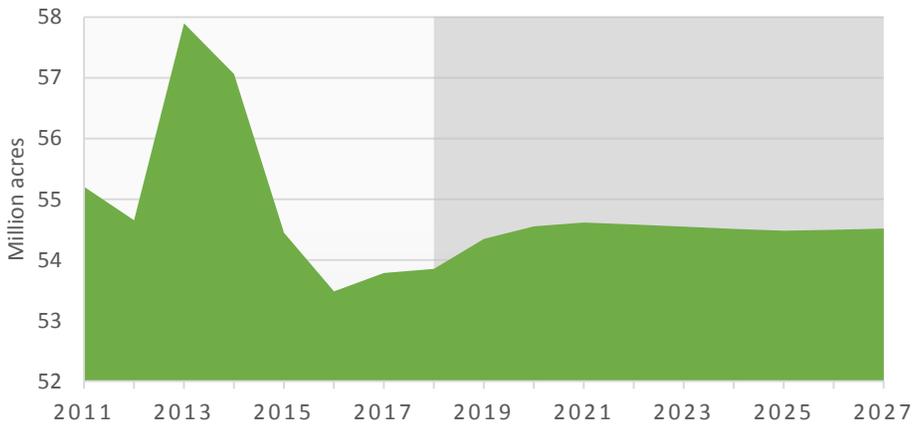
Total cash receipts for fresh vegetables and melons are on an upward trend over the projection period. Harvested area was slightly down in 2017 but offset by a higher price and yield. Cash receipts for 2017 are estimated at \$17.5 billion, an 11 percent increase from the previous year.



Hurricane Irma and citrus greening disease hit Florida’s orange production hard in 2017. A bumper almond crop in California is expected to suppress the almond price, and thus cash receipts. Total cash receipts for fresh fruits and nuts for 2017 are estimated at \$24.1 billion, a 16 percent decrease from the previous year. Cash receipts are expected to rise over the projection period, but not back to their peak in 2014.



Some recovery expected in hay harvested area



Hay

Some recovery in hay prices is expected to start in 2017/18 as cattle numbers increase. The change in prices entices some acres back into hay that had left with falling prices. The increase levels out in 2019 and area remains flat thereafter.

Upland cotton supply and use

August-July year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Planted area	12.36	12.13	11.79	11.91	11.69	11.67	11.63	11.62	11.59	11.54	11.50
Harvested area	11.10	10.39	10.10	10.22	10.01	10.00	9.95	9.96	9.95	9.90	9.85
Yield	(Pounds per harvested acre)										
	889	845	853	864	872	881	889	898	907	915	923
Supply	(Million bales)										
Beginning stocks	2.69	5.56	5.58	5.16	5.33	5.27	5.28	5.35	5.42	5.49	5.59
Production	20.57	18.34	18.00	18.45	18.21	18.40	18.48	18.70	18.84	18.91	18.98
Imports	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Domestic mill use	3.31	3.42	3.45	3.48	3.50	3.50	3.52	3.52	3.53	3.54	3.54
Exports	14.24	14.91	14.99	14.81	14.79	14.89	14.91	15.11	15.25	15.29	15.36
Total use	17.55	18.33	18.44	18.29	18.28	18.40	18.42	18.63	18.78	18.83	18.91
Ending stocks	5.56	5.58	5.16	5.33	5.27	5.28	5.35	5.42	5.49	5.59	5.67
CCC inventory	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other stocks	5.56	5.58	5.16	5.33	5.27	5.28	5.35	5.42	5.49	5.59	5.67
Prices, program provisions	(Cents per pound)										
Farm price	68.8	64.3	69.2	68.6	69.1	69.9	69.8	70.1	70.4	70.2	70.2
Adjusted world price	65.7	60.1	65.4	64.8	65.1	66.1	66.0	66.5	67.1	66.9	67.0
Loan rate	49.4	52.0	52.0	51.8	51.2	51.3	51.4	51.5	51.6	51.5	51.5
Cottonseed price	(Dollars per ton)										
	147.24	166.06	174.81	174.07	174.42	172.37	170.78	170.22	168.98	168.39	167.33
Base area	(Million acres)										
	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Returns and payments	(Dollars)										
Gross market revenue/a.	701.45	638.23	690.83	694.51	705.07	717.69	722.80	732.30	741.76	745.33	751.06
Variable expenses/a.	450.37	452.69	461.15	480.16	494.02	508.04	522.14	536.60	548.97	559.38	569.67
Market net return/a.	251.07	185.53	229.69	214.35	211.05	209.65	200.66	195.69	192.78	185.95	181.40
Marketing loan benefits/a.*	0.00	27.55	21.18	24.31	18.29	15.74	20.30	18.37	17.98	18.86	16.83
Transition payments/base a.*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Insurance net indemnities/a.	22.10	46.86	49.72	48.15	51.60	51.95	52.14	53.05	54.24	55.75	56.79

*Marketing loan benefits, transition payments and insurance net indemnities are averaged across all acres.

All projections are averages across 500 stochastic outcomes.

Sugar supply and use

October-September year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Million acres)										
Sugar cane harvested	0.851	0.854	0.853	0.849	0.845	0.844	0.847	0.847	0.848	0.850	0.852
Sugar beet planted	1.131	1.139	1.129	1.130	1.138	1.154	1.174	1.183	1.197	1.209	1.221
Sugar beet harvested	1.114	1.117	1.107	1.108	1.116	1.131	1.151	1.160	1.173	1.185	1.197
Yield	(Tons per harvested acre)										
Cane sugar	4.70	4.55	4.58	4.60	4.63	4.64	4.66	4.70	4.72	4.75	4.78
Beet sugar	4.72	4.55	4.63	4.72	4.79	4.86	4.94	5.02	5.11	5.20	5.29
Supply and use	(Thousand tons)										
Production	9,255	8,969	9,033	9,132	9,253	9,418	9,633	9,807	10,006	10,202	10,405
Cane sugar	3,994	3,888	3,908	3,906	3,912	3,919	3,950	3,979	4,007	4,040	4,072
Beet sugar	5,261	5,081	5,125	5,225	5,341	5,499	5,683	5,828	5,999	6,162	6,333
Imports	3,308	3,311	3,422	3,557	3,595	3,536	3,470	3,451	3,383	3,351	3,293
Domestic use	12,438	12,376	12,338	12,535	12,712	12,822	12,970	13,122	13,257	13,416	13,563
Exports	100	108	112	114	115	114	114	115	115	115	116
Ending stocks	1,861	1,657	1,661	1,700	1,721	1,738	1,757	1,778	1,795	1,816	1,835
Prices	(Cents per pound)										
N.Y. spot raw sugar	28.72	29.72	29.31	29.79	29.62	30.26	30.25	30.39	30.56	30.57	30.66
Refined beet sugar	30.40	31.87	31.46	32.09	31.99	32.84	32.93	33.18	33.50	33.61	33.82

All projections are averages across 500 stochastic outcomes.

Hay supply and use

May-April year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Harvested area	(Million acres)										
	53.8	53.9	54.3	54.6	54.6	54.6	54.5	54.5	54.5	54.5	54.5
Yield	(Tons per acre)										
	2.44	2.41	2.42	2.43	2.44	2.45	2.45	2.46	2.46	2.47	2.47
Supply and use	(Million tons)										
Production	131.5	129.8	131.5	132.5	133.2	133.5	133.7	133.9	134.1	134.5	134.8
Disappearance	128.3	126.4	126.5	126.9	127.2	127.4	127.5	127.6	127.7	128.0	128.2
Ending stocks	22.3	20.4	20.0	20.1	20.4	20.8	21.1	21.4	21.7	22.0	22.3
All hay farm price	(Dollars per ton)										
	139.34	153.21	159.00	160.88	160.55	159.65	159.02	158.64	158.66	158.62	158.15

All projections are averages across 500 stochastic outcomes.

Potato supply and utilization

August-July year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Area	(Thousand acres)										
Planted area	1,034	1,033	1,031	1,026	1,020	1,014	1,008	1,001	994	987	980
Harvested area	1,026	1,024	1,022	1,018	1,012	1,006	999	993	986	979	972
Yield	(Hundredweight per harvested acre)										
	430	435	439	444	449	454	458	463	468	472	477
Supply	(Million hundredweights)										
Production	518	524	529	533	537	541	544	547	550	553	556
Imports	441	445	450	452	455	457	458	460	462	463	464
Discrepancy	59	60	61	63	64	66	67	69	71	72	74
	18	18	18	18	18	18	18	18	18	18	18
Total use	518	524	529	533	537	541	544	547	550	553	556
Domestic use	441	446	450	453	456	458	460	461	463	464	466
Exports	77	78	79	80	81	83	84	86	87	89	91
Prices	(Dollars per hundredweight)										
Farm price	10.12	9.73	9.65	9.73	9.83	9.92	10.02	10.14	10.27	10.40	10.53
Crop insurance participation	(Percent of acres)										
	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Returns and payments	(Dollars)										
Gross market revenue/a.	4,350	4,231	4,239	4,320	4,413	4,500	4,594	4,696	4,803	4,915	5,027
Variable expenses/a.	2,275	2,320	2,367	2,414	2,462	2,511	2,562	2,613	2,665	2,718	2,773
Market net return/a.	2,075	1,911	1,873	1,907	1,951	1,988	2,032	2,083	2,138	2,196	2,254
Premium subsidy/a.	51	59	57	57	58	59	61	62	64	66	68

Fresh vegetable and melon supply and utilization

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Area	(Million acres)										
Planted area	2.68	2.68	2.65	2.61	2.58	2.55	2.51	2.48	2.45	2.42	2.39
Harvested area	2.57	2.57	2.54	2.51	2.48	2.45	2.42	2.39	2.36	2.32	2.29
Yield	(Quantity index per acre)										
	24.4	24.6	24.8	25.0	25.3	25.5	25.8	26.0	26.2	26.5	26.7
Supply	(Quantity index)										
Production	94	96	97	98	99	100	101	102	103	103	104
Imports	63	63	63	63	63	62	62	62	62	62	61
	31	33	34	35	36	37	39	40	41	42	43
Total use	94	96	97	98	99	100	101	102	103	103	104
Domestic use	86	88	89	90	91	92	93	94	94	95	96
Exports	8	8	8	8	8	8	8	8	8	8	8
Prices	(Price index, 1984=100)										
Producer price	238	235	239	244	248	253	258	262	267	272	277
Cash receipts	(Million dollars)										
Vegetables	14,921	14,843	15,067	15,307	15,555	15,800	16,040	16,276	16,510	16,743	16,980
Other vegetables	2,533	2,503	2,613	2,729	2,846	2,964	3,079	3,190	3,298	3,404	3,514
Total receipts	17,454	17,346	17,681	18,036	18,401	18,764	19,120	19,466	19,808	20,148	20,494

Non-citrus fruit supply and utilization

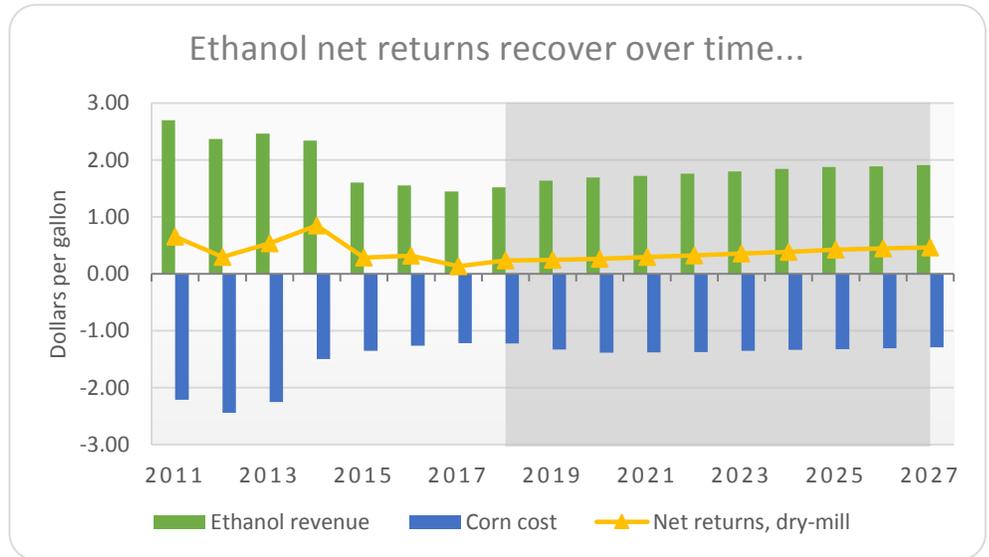
Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Area	(Million acres)										
Bearing acre	2.03	2.01	1.99	1.98	1.96	1.96	1.95	1.94	1.93	1.93	1.93
Yield	(Quantity index per acre)										
	61	62	63	64	65	66	67	68	69	70	71
Supply	(Quantity index)										
Production	202	209	215	221	227	233	238	244	249	254	259
Imports	79	85	91	95	100	104	108	112	116	120	123
Total use	202	209	215	221	227	233	238	244	249	254	259
Domestic use	174	180	185	190	195	200	205	210	214	219	223
Exports	28	29	30	31	32	33	33	34	35	35	36
Prices	(Price index, 1982=100)										
Producer price	129	127	126	126	127	127	128	129	130	131	132
Cash receipts	(Million dollars)										
Non-citrus fruits	15,858	15,682	15,731	15,885	16,102	16,359	16,641	16,933	17,232	17,548	17,910
Other fruits	8,267	8,109	8,153	8,291	8,485	8,716	8,969	9,230	9,499	9,782	10,106
Total receipts	24,125	23,790	23,883	24,176	24,587	25,075	25,609	26,163	26,731	27,330	28,017



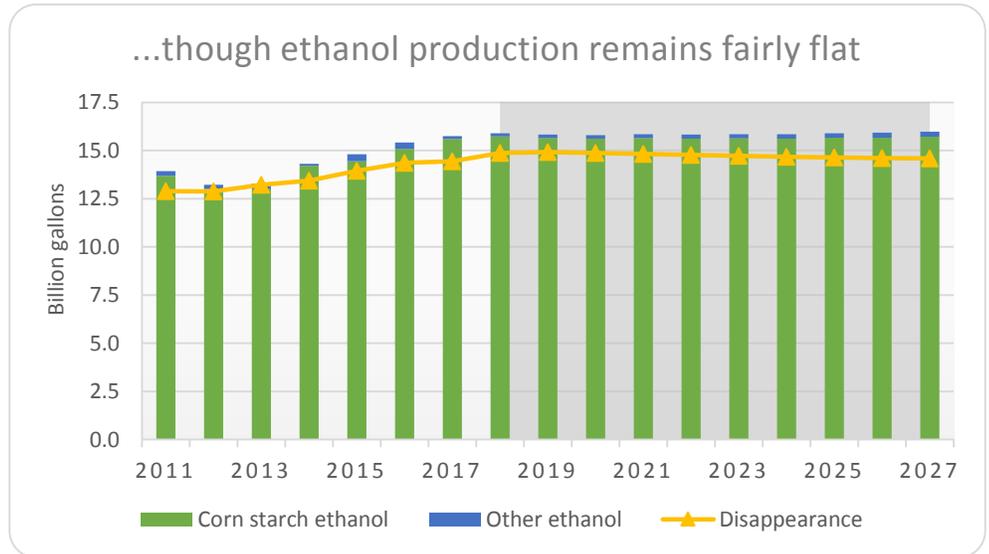
Biofuels

Ethanol

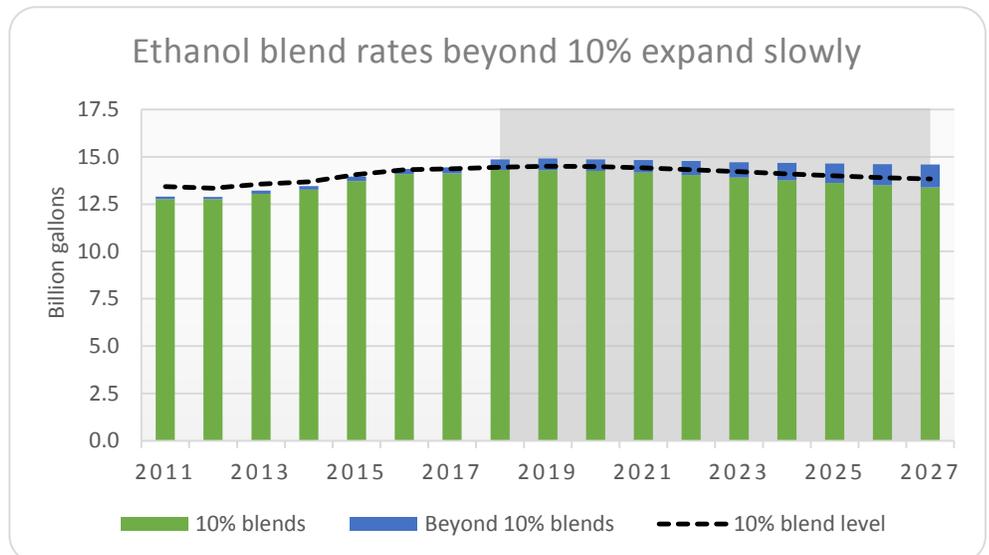
Ethanol rack prices are projected to increase slowly, eventually reaching \$1.91 per gallon by 2027. Although corn prices recover early in the projection period, higher input costs are offset by higher revenues from ethanol and co-products (e.g., DDGS and distiller’s corn oil). Dry-mill net returns experience modest gains but these are not sufficient to induce significant new capacity investment.



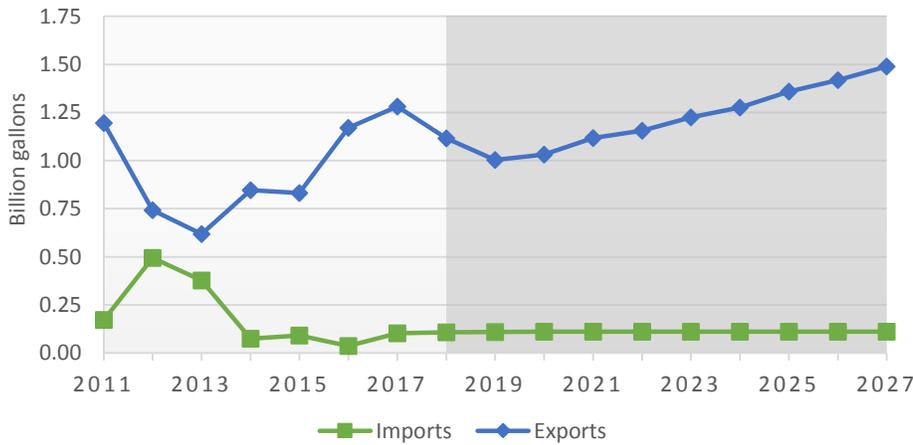
Rising net returns lead to continued growth in ethanol production. However, a saturated domestic market and somewhat diminished export prospects have led to slightly lower projected conventional ethanol production. Domestic production is projected to remain around 15.7 billion gallons with non-corn sources adding an additional 0.3 billion gallons. Domestic ethanol disappearance sees some growth initially before leveling off around 15 billion gallons.



In order to meet rising Renewable Fuel Standard (RFS) requirements, there is a modest substitution toward higher level ethanol blends (e.g., E15 and E85) at the expense of E10. As a result, the average inclusion rate of ethanol increases beyond the 10 percent level as early as 2018 and remains higher through the projection period.

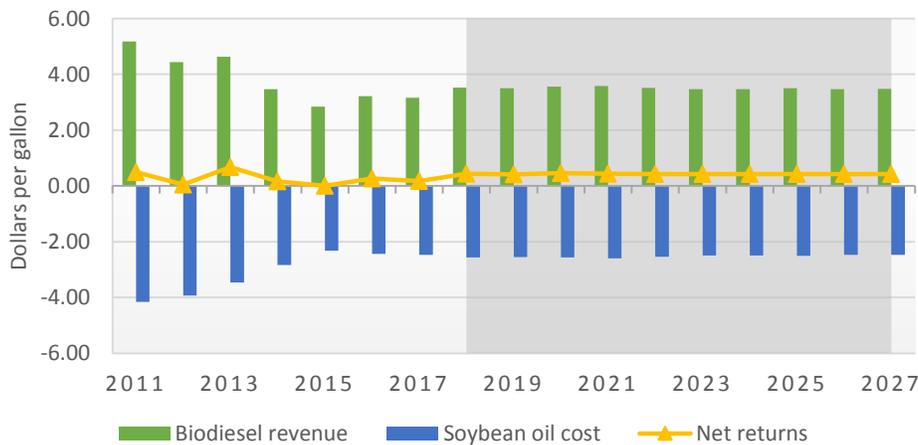


Ethanol exports show modest growth after 2019



Export demand is supported by rising crude oil prices. However, policy developments abroad lead to a somewhat diminished outlook. Ethanol imports remain low as the RFS requirements for advanced biofuels are expected to be met with additional biomass-based diesel.

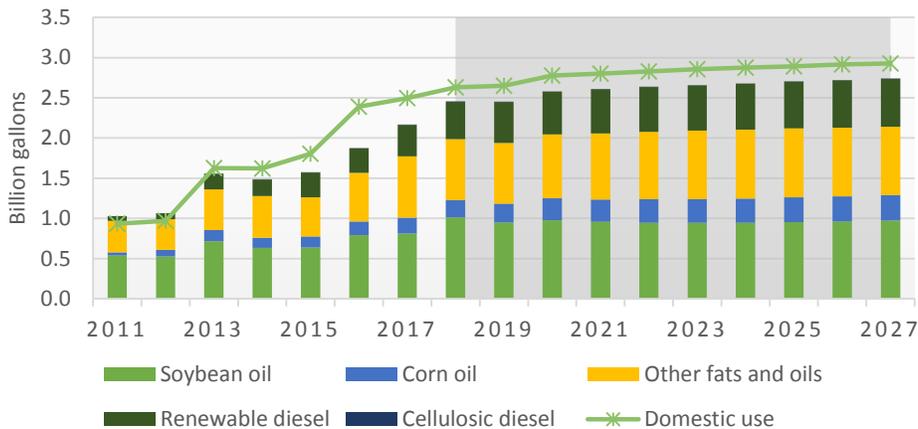
Biodiesel net returns rise relative to recent years



Biomass-based diesel

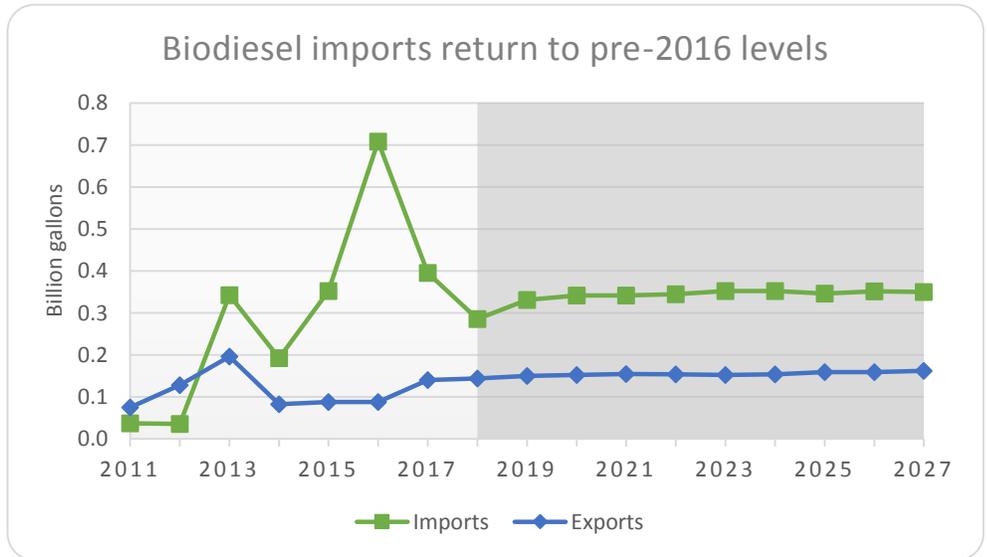
New restrictions on biodiesel imports lead to a projected recovery in biodiesel prices that, along with a comparatively flat soybean oil price, result in stronger projected net returns for U.S. biodiesel producers.

U.S. biodiesel production expands with use



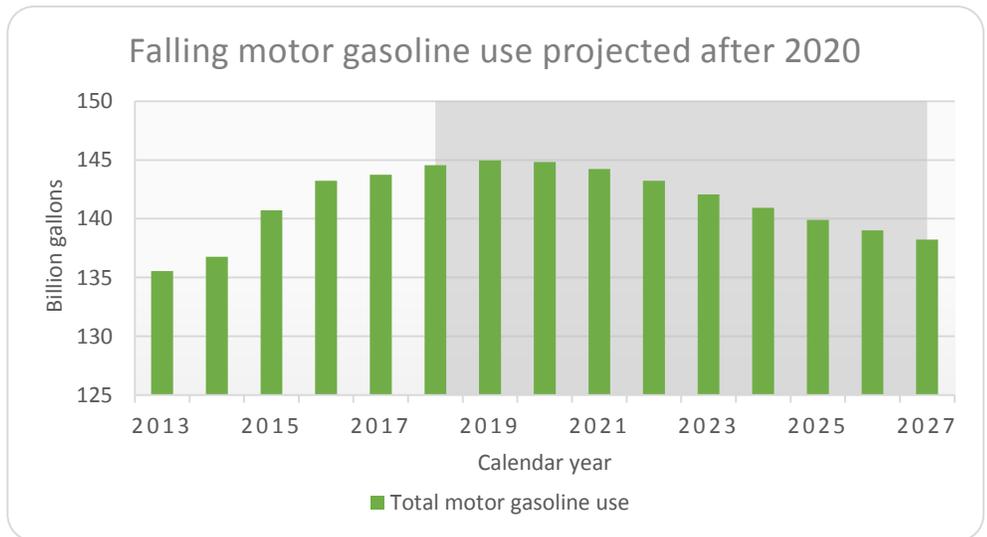
In response, domestic biodiesel production increases to nearly 2.75 billion gallons. The share of total biodiesel production from soybean oil remains fairly flat at roughly 45 percent, with modest growth in renewable diesel and biodiesel from corn oil and other fats and oils.

Biomass-based diesel imports rose sharply in 2016, but new anti-dumping duties were imposed in 2017. Going forward, imports are projected to return to the levels seen in 2013-15. Biodiesel exports have remained fairly flat the last few years and are expected to remain flat for the projection period.

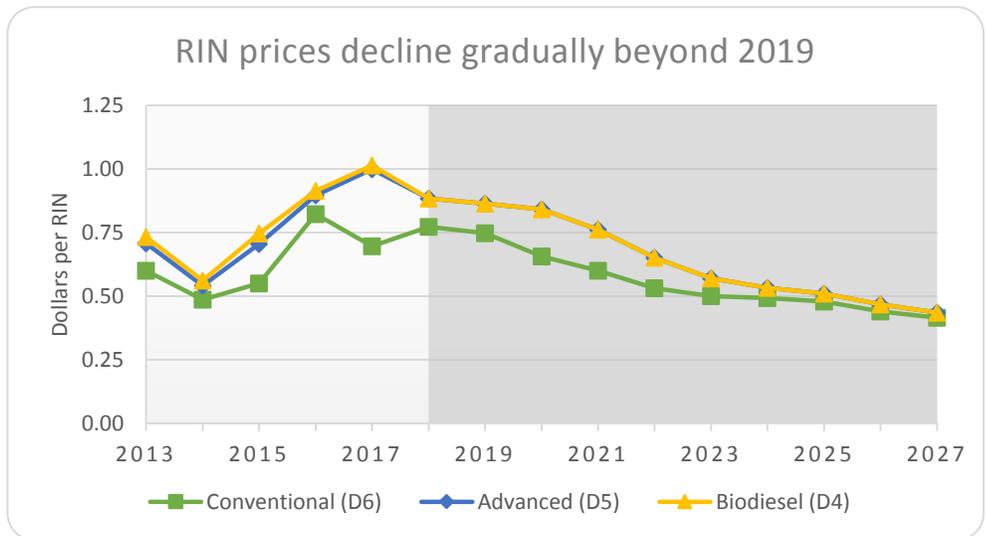


Renewable Fuel Standard

Higher oil prices and fuel efficiency gains lead to declining motor gasoline use after 2020. However, those declines are offset in part as diesel fuel use rises in response to higher GDP and demand for freight. Overall motor fuel use remains fairly level in the projection period and implies limited growth in RFS requirements.



In recent years, biomass-based diesel (D4) and advanced (D5) Renewable Identification Number (RIN) prices have been within a few cents of each other. Going forward, projected prices remain equivalent as excess D4 RINs are used to meet the D5 requirements. As markets adjust to slowly rising RFS requirements, the RIN prices decline and the gap between those prices and conventional ethanol (D6) RIN prices narrows.



Ethanol supply and use

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Petroleum fuel prices (Dollars per barrel)											
Petroleum, W. Texas interm.	50.91	53.76	54.76	67.01	73.10	77.65	82.08	85.88	88.72	91.67	94.94
Petroleum, refiners' acquis.	50.04	50.05	50.71	60.39	66.39	71.56	76.22	80.22	83.62	86.79	90.04
Unl. gasoline, FOB Omaha (Dollars per gallon)											
Unl. gasoline, FOB Omaha	1.81	1.79	1.82	2.08	2.25	2.41	2.55	2.65	2.74	2.83	2.92
Unleaded gasoline, retail	2.41	2.40	2.43	2.68	2.85	3.01	3.14	3.25	3.35	3.43	3.52
Motor gasoline use* (Million gallons)											
Motor gasoline use*	143,746	144,548	144,956	144,825	144,242	143,228	142,079	140,943	139,912	139,016	138,233
Ethanol supply and use											
Production	15,756	15,891	15,827	15,801	15,843	15,826	15,842	15,844	15,898	15,922	15,976
From corn	15,603	15,728	15,654	15,618	15,650	15,623	15,627	15,616	15,658	15,670	15,714
Other conventional	144	150	159	168	175	184	194	206	216	224	232
Cellulosic	8	13	14	16	17	19	21	23	25	28	30
Imports	103	107	109	111	111	111	111	111	111	110	110
Domestic disappearance	14,449	14,867	14,920	14,869	14,826	14,771	14,719	14,670	14,642	14,607	14,590
Exports	1,280	1,117	1,003	1,031	1,117	1,156	1,225	1,277	1,359	1,418	1,489
Ending stocks	950	965	978	990	1,001	1,010	1,019	1,028	1,036	1,043	1,050
Ethanol prices (Dollars per gallon)											
Conventional rack, Omaha	1.45	1.52	1.64	1.70	1.72	1.76	1.80	1.85	1.88	1.89	1.91
Other advanced rack	1.75	1.63	1.76	1.88	1.88	1.88	1.87	1.89	1.91	1.92	1.93
Effective retail	1.35	1.36	1.50	1.64	1.73	1.83	1.90	1.96	2.00	2.06	2.10
Ethanol/gasoline retail	56%	57%	62%	61%	60%	61%	60%	60%	60%	60%	60%
RIN values											
Conventional ethanol	0.70	0.77	0.75	0.66	0.60	0.53	0.50	0.49	0.48	0.44	0.41
Advanced ethanol	1.00	0.88	0.86	0.84	0.76	0.65	0.57	0.53	0.51	0.47	0.43

* Includes fuel ethanol

All projections are averages across 500 stochastic outcomes.

Renewable Fuel Standard

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Applicable percent standard											
Overall	10.70%	10.67%	10.53%	10.53%	10.55%	10.58%	10.62%	10.65%	10.68%	10.70%	10.72%
Advanced biofuels	2.38%	2.37%	2.38%	2.40%	2.41%	2.42%	2.43%	2.45%	2.46%	2.47%	2.48%
Cellulosic biofuel	0.17%	0.16%	0.17%	0.18%	0.20%	0.21%	0.22%	0.23%	0.25%	0.26%	0.27%
Biomass-based diesel	1.67%	1.74%	1.75%	1.77%	1.78%	1.79%	1.80%	1.82%	1.83%	1.84%	1.85%
Required volume (Million gallons)											
Overall	19,344	19,338	19,388	19,416	19,438	19,450	19,461	19,473	19,487	19,505	19,525
Advanced biofuels	4,344	4,338	4,388	4,416	4,438	4,450	4,461	4,473	4,487	4,505	4,525
Cellulosic biofuel	229	235	237	241	244	247	251	254	258	262	266
Biomass-based diesel	3,048	3,185	3,228	3,254	3,276	3,292	3,306	3,320	3,337	3,356	3,377
Gaps: Conventional	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Advanced	1,067	918	923	921	917	911	905	898	892	887	882

All projections are averages across 500 stochastic outcomes.

Biomass-based diesel sector

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Biomass-based diesel supply (Million gallons)											
Production	2,166	2,456	2,450	2,578	2,609	2,637	2,657	2,678	2,705	2,721	2,740
From soybean oil	810	1,013	951	978	955	946	944	947	954	962	971
From corn oil	200	213	232	272	280	290	293	299	306	312	316
From other fats and oils	764	759	757	793	822	841	854	858	860	856	852
From cellulosic diesel	2	2	2	3	3	3	3	4	4	4	5
Renewable diesel	391	469	508	532	549	557	563	570	580	588	596
Net imports	255	141	181	189	188	191	200	198	187	192	188
Biomass-based diesel use											
Domestic disappearance	2,495	2,632	2,648	2,775	2,800	2,830	2,857	2,876	2,891	2,913	2,928
Ending stocks	196	161	144	136	132	131	130	130	130	130	130
Fuel prices and tax credit (Dollars per gallon)											
Biodiesel, rack	3.16	3.52	3.50	3.56	3.58	3.52	3.47	3.47	3.50	3.47	3.48
#2 Diesel, refiner sales	1.67	1.65	1.68	1.94	2.11	2.27	2.40	2.51	2.60	2.69	2.77
#2 Diesel, retail	2.65	2.63	2.66	2.93	3.10	3.25	3.39	3.49	3.59	3.67	3.76
Biodiesel tax credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIN values											
Per RIN gallon	1.01	0.88	0.86	0.84	0.76	0.65	0.57	0.53	0.51	0.47	0.43
Per physical gallon	1.52	1.33	1.30	1.26	1.14	0.98	0.86	0.80	0.77	0.70	0.65

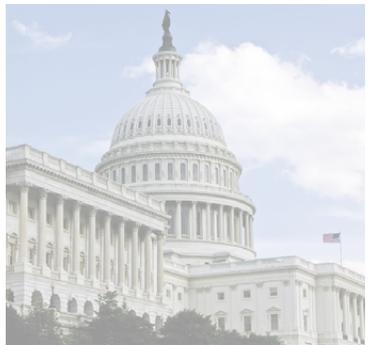
All projections are averages across 500 stochastic outcomes.

Biofuel plant returns

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Biodiesel costs and returns (Dollars per gallon)											
Biodiesel value	3.16	3.52	3.50	3.56	3.58	3.52	3.47	3.47	3.50	3.47	3.48
Glycerin value	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Soyoil cost	-2.47	-2.56	-2.55	-2.57	-2.59	-2.54	-2.49	-2.49	-2.51	-2.47	-2.47
Other operating costs	-0.58	-0.59	-0.60	-0.60	-0.61	-0.62	-0.63	-0.63	-0.64	-0.65	-0.65
Net operating return	0.18	0.44	0.42	0.46	0.44	0.43	0.42	0.42	0.42	0.43	0.43
Corn milling for ethanol (Million bushels)											
Corn wet milled for ethanol	561	585	573	560	555	547	542	538	534	527	522
Corn dry milled for ethanol	4,916	5,031	5,006	4,996	5,003	4,992	4,988	4,979	4,988	4,990	5,001
(Share de-oiling DDGS)	87%	88%	89%	90%	91%	92%	93%	94%	95%	96%	97%
Dry mill ethanol costs, returns (Dollars per gallon)											
Ethanol value	1.45	1.52	1.64	1.70	1.72	1.76	1.80	1.85	1.88	1.89	1.91
Distillers grains value	0.32	0.35	0.37	0.39	0.39	0.39	0.39	0.39	0.39	0.38	0.38
Corn oil value*	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.07	0.07	0.07	0.07
Corn cost	-1.22	-1.22	-1.33	-1.39	-1.38	-1.37	-1.35	-1.33	-1.32	-1.31	-1.29
Fuel and electricity cost	-0.12	-0.12	-0.14	-0.13	-0.13	-0.14	-0.15	-0.17	-0.17	-0.17	-0.18
Other operating costs	-0.38	-0.38	-0.39	-0.39	-0.40	-0.40	-0.41	-0.41	-0.42	-0.42	-0.42
Net operating return	0.14	0.23	0.25	0.27	0.30	0.32	0.36	0.39	0.42	0.45	0.46

* Weighted by share of dry mills de-oiling DDGs

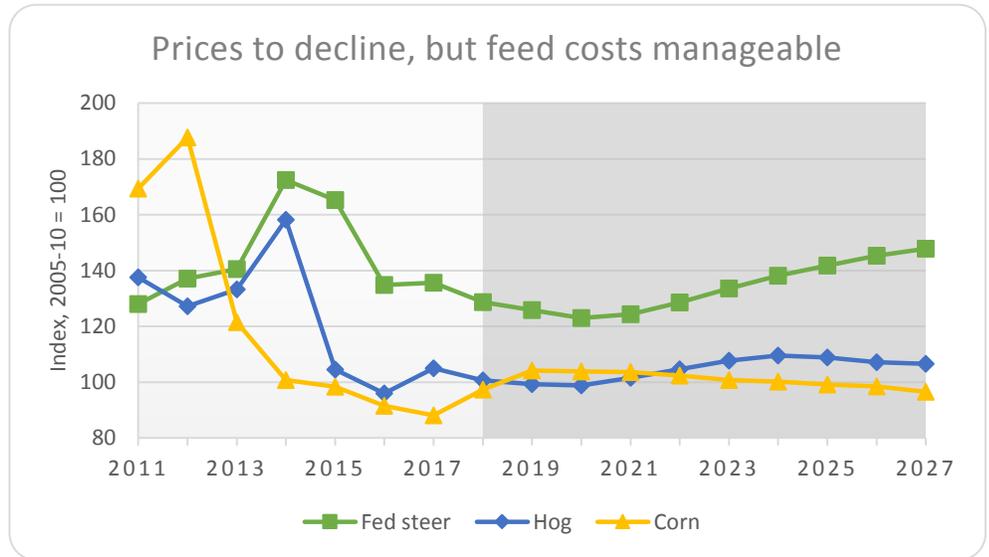
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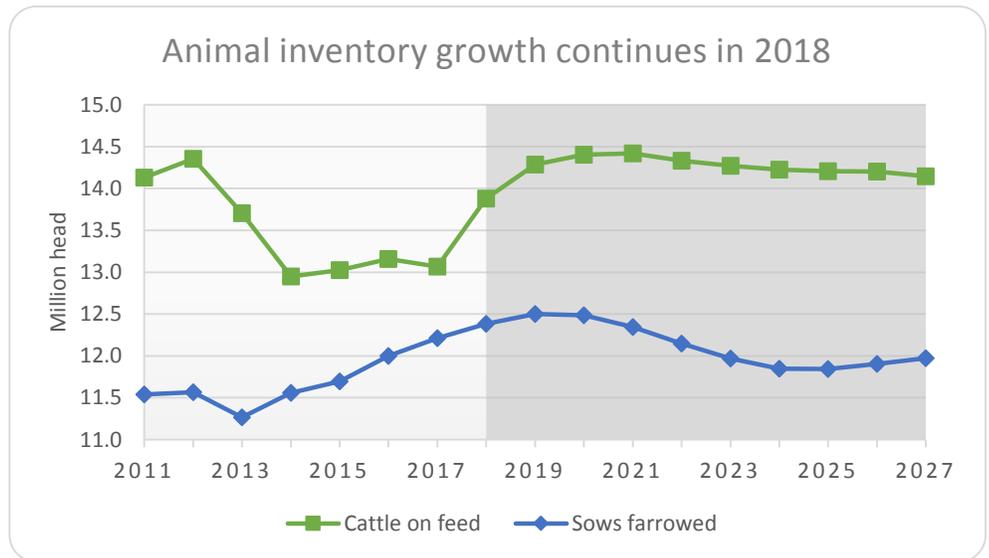
Livestock & dairy

Cattle and hogs

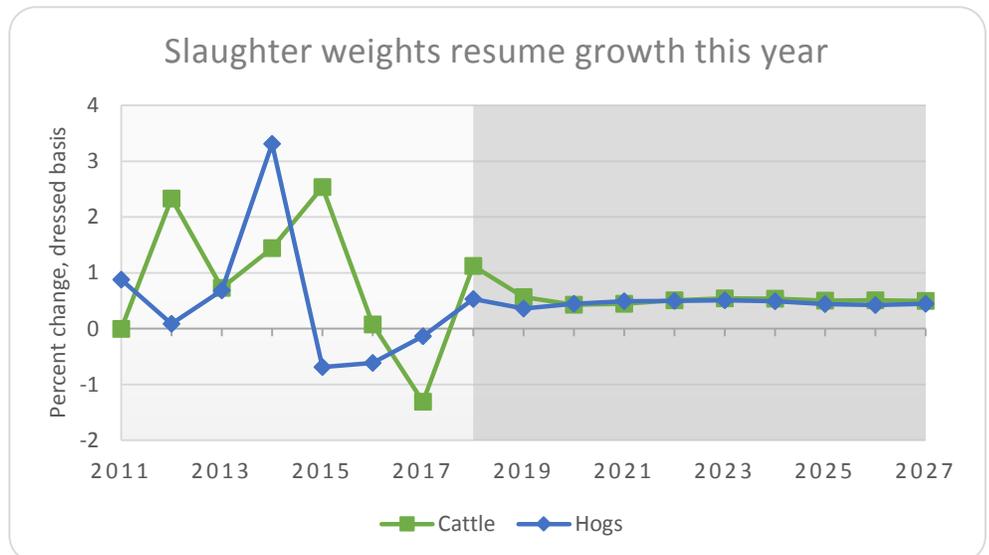
Cattle and hog prices are projected to resume annual declines in 2018 and 2019, as large supplies continue to enter the market. Price declines were interrupted in 2017 due to very strong meat demand. While demand still appears to be on solid ground, it is unlikely that the strength of last year can continue. Feed costs remain a bright spot, as abundant grain and oilseed supplies limit input cost increases for meat and animal producers.



Animal numbers continue to grow, benefited by stable feed costs and impressive consumer demand for meat. Beef cow numbers increased for the fourth consecutive year to begin 2018, and modest growth could continue this year unless drought conditions intensify. Hog numbers continue higher as well, buoyed by expanded slaughter capacity. With feedlots and finishing barns feeding increasingly more animals, the downside financial risk associated with a feed price spike or significant meat demand deterioration is growing.

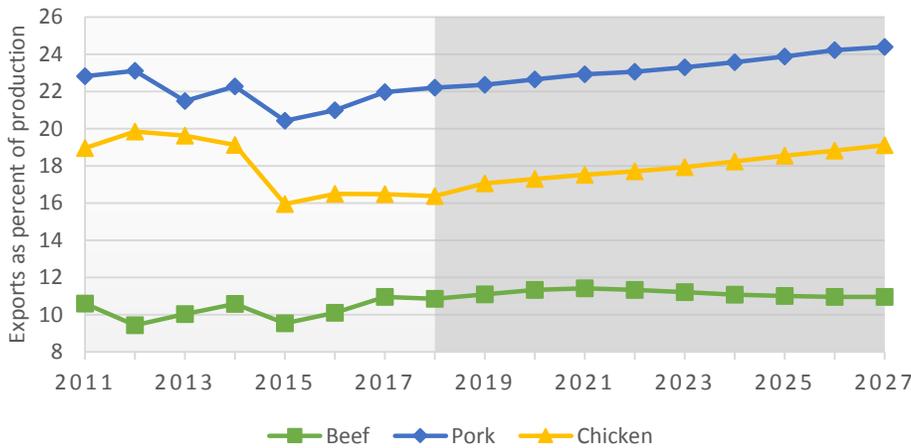


One moderating influence on the total pounds of beef and pork produced in 2017 was lighter cattle and hog slaughter weights. Hog weights have now declined for three consecutive years, even with lower feed costs. Part of the decline is due to the mix of animals being processed, with strong meat demand also pulling animals off of feed and into the marketplace more quickly. Slaughter weight increases are projected to resume this year, adding to heavy supply.



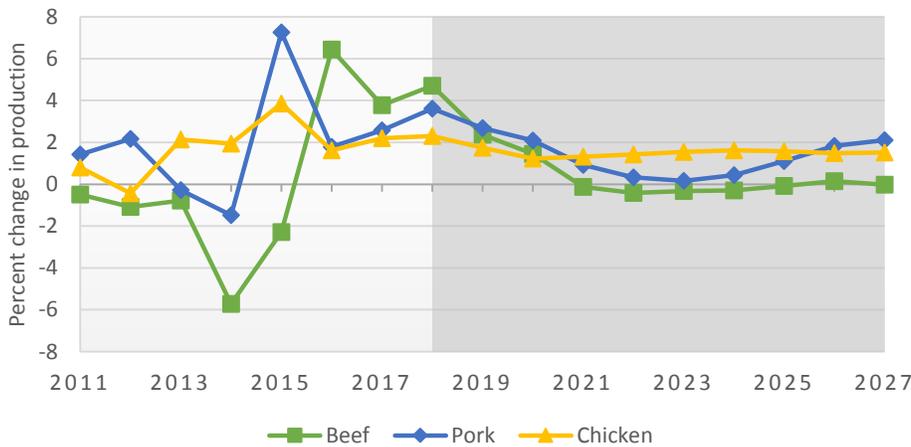
Meat

Trade growth struggles to match production



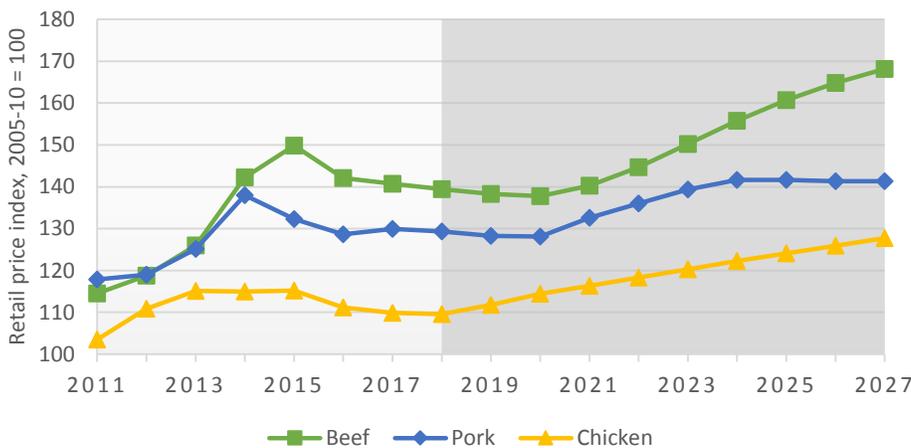
The sum of beef, pork and chicken exports grew by 840 million pounds (6 percent) in 2017, and further growth of nearly 500 million pounds is projected in 2018. However, the export increase only accounts for about 16 percent of the production increase expected for these three meats in 2018. While the U.S. meat industry is very dependent on international markets, domestic consumers comprise the largest share of the market.

Growth continues in all major meat sectors



With feed prices projected to remain at stable and affordable levels, and with strong demand for meat characterizing 2017 markets, producers will continue to supply more meat. Production increases for 2018 will again be 2 percent or greater for all of the major meat sectors. With producer returns projected to decline in both 2018 and 2019, meat production growth will then begin to slow in the medium term. Continuing increases in exports and population growth will lead to a decline in per capita meat availability by 2021.

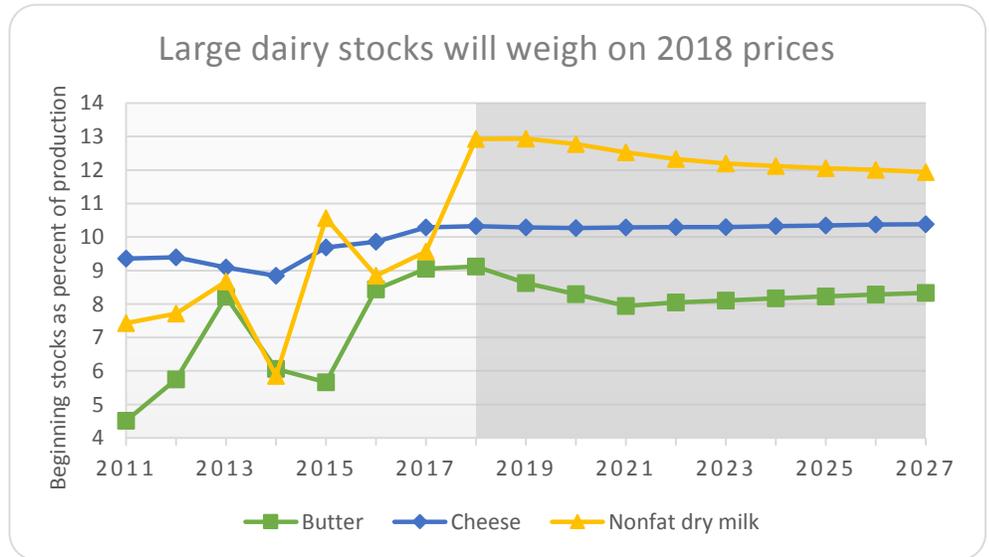
Red meat price growth outpaces poultry



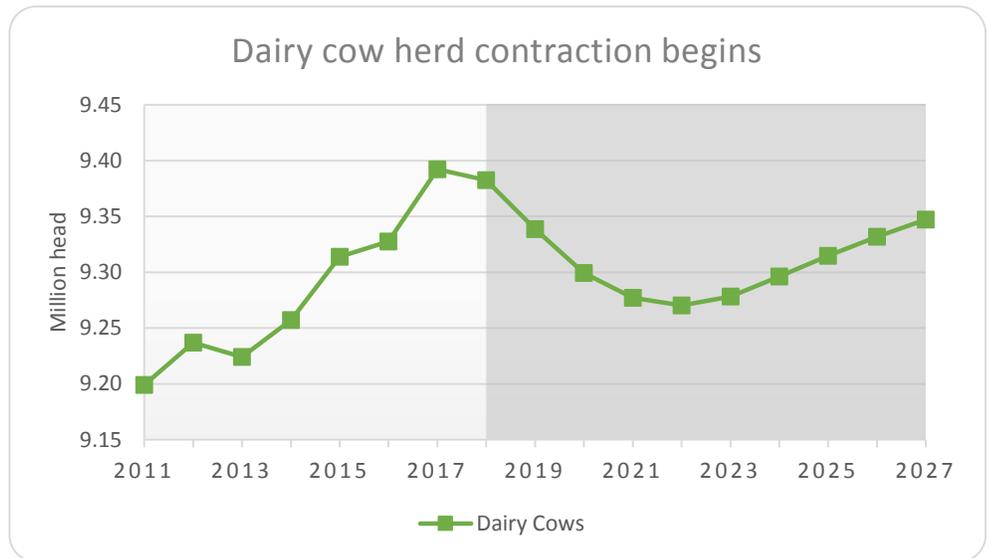
Though demand has been strong for many meat products recently, higher-quality and more flavorful dining experiences have led consumer trends. This has favored beef relative to other meat sectors. While bacon prices have been very strong, pork loin and chicken breast prices have struggled. Turkey demand has also been very weak, leading to wholesale turkey price projections for 2018 that are the lowest since 2010.

Dairy

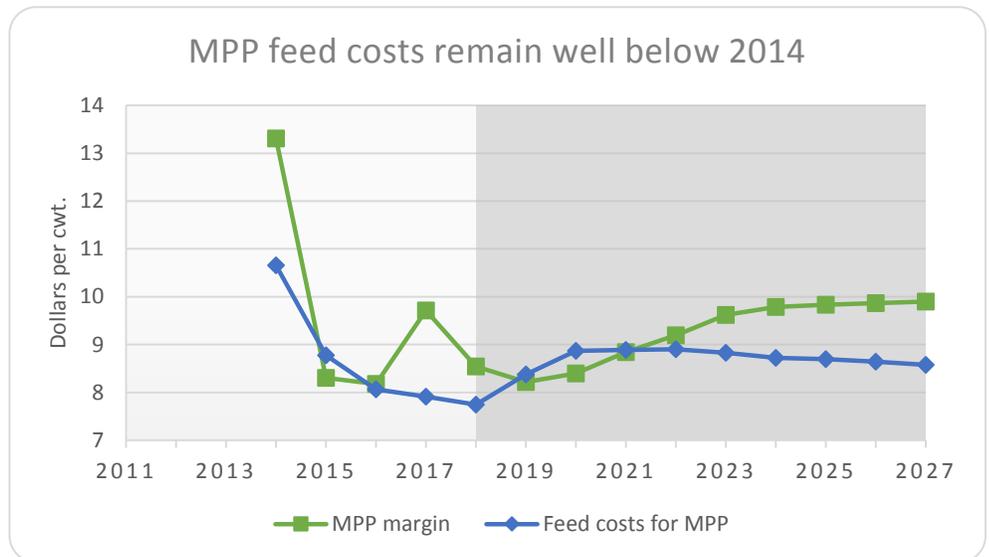
There were large beginning stocks of cheese in 2018. While nonfat dry milk stocks are lower than in the early 2000s, they have grown to the highest level since mid-2009. Unless market demand for growing supplies of nonfat dry milk accelerates, both in the U.S. and globally, milk prices will be held back even as butter demand remains historically strong. The all milk price for 2018 is projected at its lowest level since 2009, and a decline in the dairy herd will likely be necessary to allow prices to recover.



Dairy cow inventory grew for the fourth consecutive year in 2017. Though a four year expansion also took place from 2005-2008, numbers have not grown for five straight years since the early 1940s. Most of the increase in the national herd last year was due to increases in Texas and New Mexico, as inventory declined in a majority of the 50 states. Herd contraction should prevail for the next few years as supply growth slows to match current demand trends.



Margin Protection Program (MPP-Dairy) payments were not made in 2017 despite many producers continuing to face a difficult financial environment. The feed cost component of the MPP-Dairy calculation declined for the third consecutive year, allowing the margin to bump up by more than the increase in milk price. As discussion continues for the next farm bill, there is a continued challenge to provide the strongest dairy safety net possible while remaining within current budget constraints.



Cattle and hogs

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
CATTLE											
	(Million head)										
Beef cows (Jan. 1)	31.2	31.8	32.0	31.9	31.7	31.3	31.0	30.7	30.5	30.3	30.0
Dairy cows (Jan. 1)	9.3	9.4	9.4	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
Cattle and calves (Jan. 1)	93.6	94.6	94.8	94.5	93.8	93.1	92.4	91.9	91.4	91.0	90.5
Cattle on feed (Jan. 1)	13.1	13.9	14.3	14.4	14.4	14.3	14.3	14.2	14.2	14.2	14.1
Calf crop	36.2	36.6	36.7	36.5	36.2	35.9	35.7	35.5	35.3	35.1	34.9
Cattle slaughter	32.8	33.9	34.5	34.9	34.7	34.3	34.0	33.7	33.5	33.4	33.2
Cattle imports	1.8	1.9	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Cattle exports	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Prices											
Total all grades,	(Dollars per hundredweight)										
5-Area direct steers	121.52	115.25	112.71	110.15	111.37	115.20	119.66	123.80	127.00	130.16	132.41
600 - 650 #, Oklahoma City											
Feeder steers	155.69	147.80	143.11	138.34	142.90	150.79	160.33	168.53	173.82	179.71	183.42
Utility cows, Sioux Falls	66.95	65.05	63.89	62.04	63.01	66.18	69.90	73.31	75.93	78.50	80.32
Cow-calf returns											
	(Dollars per cow)										
Receipts	786.43	746.93	726.19	715.11	743.09	787.37	836.39	875.26	903.39	931.19	952.87
Feed expenses	400.77	415.71	428.11	433.44	434.49	435.32	436.20	438.40	441.90	445.85	449.65
Non-feed expenses	284.30	286.23	291.59	298.31	308.10	318.99	330.74	341.62	351.09	360.95	369.72
Net returns	101.36	44.99	6.48	-16.64	0.51	33.05	69.45	95.23	110.40	124.39	133.50
HOGS											
	(Million head)										
Hogs for breeding (Dec. 1*)	6.11	6.18	6.24	6.24	6.17	6.06	5.95	5.86	5.83	5.84	5.87
Market hogs (Dec. 1*)	65.4	67.1	68.2	69.3	69.7	69.7	69.3	69.1	69.1	69.8	70.7
Sows farrowed	12.21	12.38	12.50	12.49	12.35	12.15	11.97	11.85	11.84	11.91	11.97
Pig crop	129.4	132.9	135.9	137.5	137.7	137.2	136.8	137.1	138.7	141.1	143.6
Barrow and gilt slaughter	118.1	121.7	124.5	126.7	127.3	127.1	126.8	126.7	127.6	129.4	131.6
Hog imports	5.7	5.7	5.8	5.8	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Hog exports	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Prices											
Natl. base 51-52% lean equiv.	(Dollars per hundredweight)										
Barrows & gilts	50.48	48.40	47.75	47.48	48.84	50.31	51.76	52.64	52.35	51.50	51.22
Farrow-finish returns											
Receipts	50.75	48.64	47.97	47.71	49.08	50.57	52.04	52.94	52.65	51.79	51.50
Feed expenses	26.29	26.50	28.26	29.56	29.48	29.44	29.16	28.78	28.68	28.41	28.17
Non-feed expenses	20.03	20.02	20.19	20.69	21.06	21.41	21.73	22.01	22.26	22.50	22.73
Net returns	4.43	2.12	-0.47	-2.54	-1.46	-0.27	1.16	2.15	1.70	0.87	0.60

* Preceding year

All projections are averages across 500 stochastic outcomes.

Meat sector

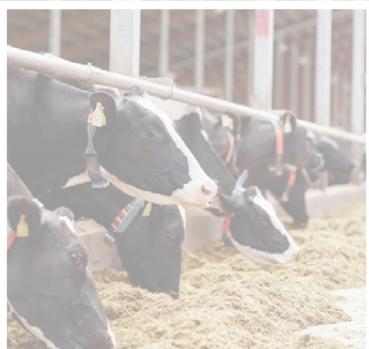
Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Beef	(Million pounds)										
Production	26,242	27,477	28,127	28,537	28,502	28,381	28,288	28,205	28,183	28,224	28,219
Imports	2,976	3,031	3,010	2,992	3,044	3,089	3,129	3,174	3,196	3,204	3,196
Domestic use	26,420	27,518	27,996	28,277	28,288	28,252	28,243	28,253	28,273	28,328	28,317
Exports	2,875	2,983	3,120	3,235	3,253	3,217	3,173	3,124	3,104	3,094	3,094
Ending stocks	680	686	707	724	729	729	730	731	734	739	743
Pork											
Production	25,601	26,525	27,237	27,808	28,063	28,156	28,200	28,322	28,636	29,162	29,777
Imports	1,113	1,005	961	937	972	1,014	1,071	1,101	1,115	1,102	1,089
Domestic use	21,048	21,579	22,078	22,423	22,591	22,674	22,697	22,743	22,902	23,182	23,583
Exports	5,623	5,892	6,093	6,300	6,433	6,492	6,571	6,674	6,837	7,063	7,262
Ending stocks	550	609	636	658	667	672	675	680	693	713	735
Broiler											
Production	41,146	42,091	42,821	43,344	43,911	44,539	45,228	45,959	46,682	47,377	48,092
Domestic use	34,381	35,332	35,652	35,972	36,347	36,783	37,251	37,706	38,156	38,595	39,038
Exports	6,783	6,896	7,306	7,501	7,696	7,888	8,109	8,386	8,661	8,921	9,194
Ending stocks	885	879	875	879	884	890	897	906	914	922	930
Turkey											
Production	5,987	6,043	6,073	6,097	6,137	6,187	6,245	6,304	6,359	6,410	6,461
Domestic use	5,343	5,422	5,437	5,441	5,464	5,497	5,538	5,582	5,622	5,657	5,693
Exports	623	655	672	691	707	723	739	755	771	787	803
Ending stocks	325	323	320	317	317	318	320	323	325	326	328
Wholesale prices	(Dollars per hundredweight)										
Boxed beef cutout	209.84	202.08	201.02	199.78	204.14	212.25	221.55	230.52	237.73	242.79	246.19
Pork cutout	84.04	79.87	78.30	78.11	80.46	83.12	85.45	87.07	86.93	86.10	86.13
National wholesale broiler	93.51	89.06	91.02	91.69	92.42	93.31	94.11	94.84	95.37	95.87	96.20
Natl. wholesale turkey hens	96.14	90.46	93.17	94.83	95.86	96.94	97.67	97.95	98.10	98.35	98.47
Retail prices	(Dollars per pound)										
Beef	5.91	5.85	5.80	5.78	5.89	6.07	6.31	6.54	6.75	6.92	7.06
Pork	3.78	3.77	3.74	3.73	3.86	3.96	4.06	4.12	4.12	4.12	4.12
Broiler	1.88	1.87	1.91	1.95	1.99	2.02	2.05	2.09	2.12	2.15	2.18
Turkey	1.58	1.52	1.55	1.59	1.62	1.65	1.68	1.70	1.73	1.75	1.77
Per capita consumption	(Pounds, retail)										
Beef	56.8	58.7	59.2	59.4	58.9	58.4	57.9	57.5	57.2	56.9	56.4
Pork	50.2	51.0	51.8	52.2	52.2	52.0	51.6	51.3	51.3	51.6	52.1
Broiler	90.7	92.5	92.6	92.7	92.9	93.3	93.8	94.2	94.7	95.1	95.5
Turkey	16.4	16.5	16.4	16.3	16.3	16.2	16.2	16.2	16.2	16.2	16.2
Total	214.1	218.7	220.0	220.5	220.2	219.9	219.6	219.3	219.4	219.7	220.2

All projections are averages across 500 stochastic outcomes.

Dairy sector

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Milk supply											
Dairy cows (thou. head)	9,392	9,383	9,339	9,299	9,277	9,270	9,278	9,296	9,315	9,332	9,347
California	1,749	1,732	1,711	1,692	1,677	1,667	1,660	1,657	1,655	1,653	1,652
Wisconsin	1,279	1,274	1,267	1,259	1,253	1,249	1,245	1,242	1,239	1,236	1,233
New York	624	622	620	618	617	616	616	616	616	616	616
Idaho	600	600	598	597	597	599	602	607	613	617	621
Pennsylvania	525	519	513	507	502	499	497	495	493	492	490
Minnesota	458	454	449	443	439	435	432	429	426	423	420
Texas	511	524	534	544	553	563	572	581	590	598	605
Michigan	427	433	437	441	445	450	455	459	464	469	473
New Mexico	329	331	330	331	332	333	334	335	336	338	339
Ohio	263	260	255	251	247	245	243	241	239	238	236
Rest of U.S.	2,629	2,634	2,625	2,616	2,613	2,616	2,623	2,633	2,644	2,653	2,662
Milk yield (lbs. per cow)	22,937	23,274	23,605	23,908	24,208	24,513	24,799	25,080	25,349	25,620	25,899
Milk production (bil. lbs.)	215.4	218.4	220.4	222.3	224.6	227.2	230.1	233.1	236.1	239.1	242.1
Min. FMMO class prices (Dollars per hundredweight)											
Class I mover	16.45	15.28	15.63	16.37	16.99	17.23	17.71	17.86	17.86	17.86	17.86
Class II	16.04	14.68	15.05	15.73	16.24	16.73	16.96	17.03	17.05	17.02	16.91
Class III	16.17	14.44	14.68	15.32	15.69	16.04	16.42	16.44	16.45	16.42	16.43
Class IV	15.16	13.98	14.35	15.03	15.54	16.03	16.26	16.33	16.35	16.32	16.21
All milk price	17.73	16.29	16.60	17.26	17.73	18.10	18.45	18.51	18.52	18.50	18.47
Actual dairy prod. margin	9.71	8.55	8.22	8.39	8.84	9.20	9.62	9.79	9.83	9.86	9.90
Wholesale prices (Dollars per pound)											
Butter, CME	2.33	2.25	2.14	2.04	2.02	2.03	2.05	2.07	2.08	2.08	2.08
Cheese, Amer., 40#, CME	1.61	1.52	1.54	1.59	1.61	1.64	1.67	1.67	1.67	1.67	1.67
Nonfat dry milk, AA	0.88	0.79	0.89	1.02	1.08	1.14	1.16	1.16	1.15	1.15	1.13
Dairy product production (Million pounds)											
American cheese	4,894	4,995	5,063	5,120	5,184	5,251	5,318	5,392	5,460	5,534	5,603
Other cheese	7,557	7,670	7,764	7,851	7,947	8,063	8,183	8,308	8,427	8,552	8,671
Butter	1,835	1,855	1,890	1,922	1,956	1,990	2,026	2,060	2,096	2,131	2,168
Nonfat dry milk	2,358	2,392	2,431	2,466	2,511	2,570	2,633	2,696	2,758	2,818	2,883
Dairy product exports											
American cheese	145	151	158	168	178	186	194	201	209	216	224
Other cheese	609	640	643	655	666	677	687	697	706	716	726
Butter	48	31	28	32	35	39	42	46	49	53	57
Nonfat dry milk	1,307	1,351	1,375	1,414	1,451	1,499	1,536	1,568	1,603	1,634	1,668
Per-capita consumption (Pounds)											
Butter	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.0	6.1	6.1	6.2
Nonfat dry milk	3.0	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.4	3.4
Total cheese	36.6	37.0	37.2	37.3	37.4	37.6	37.8	38.1	38.3	38.6	38.8
American	14.6	14.8	14.9	14.9	15.0	15.0	15.1	15.1	15.2	15.3	15.4
Other	22.0	22.2	22.3	22.4	22.5	22.6	22.8	22.9	23.1	23.3	23.4
Total fluid milk	167.5	166.5	165.0	163.5	161.9	160.3	158.9	158.0	157.1	156.1	155.1

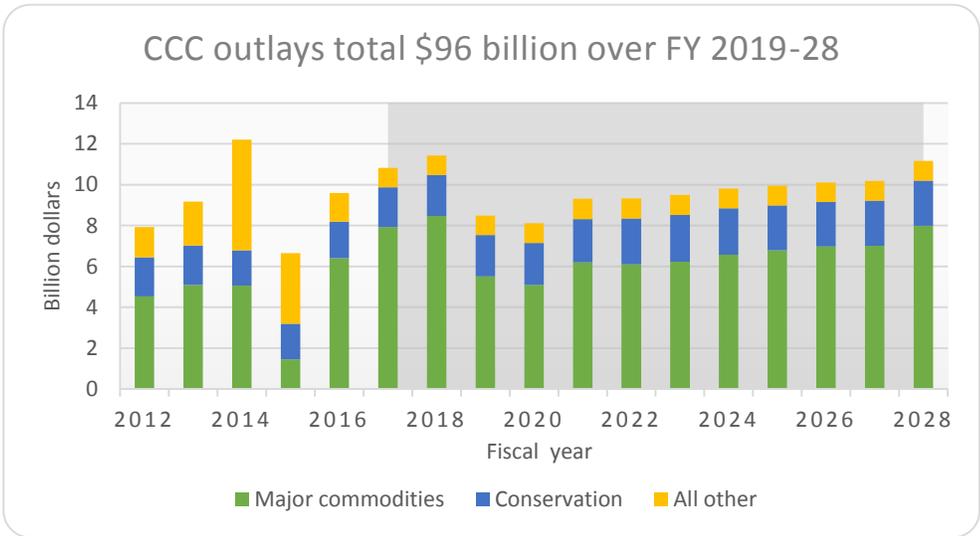
All projections are averages across 500 stochastic outcomes.



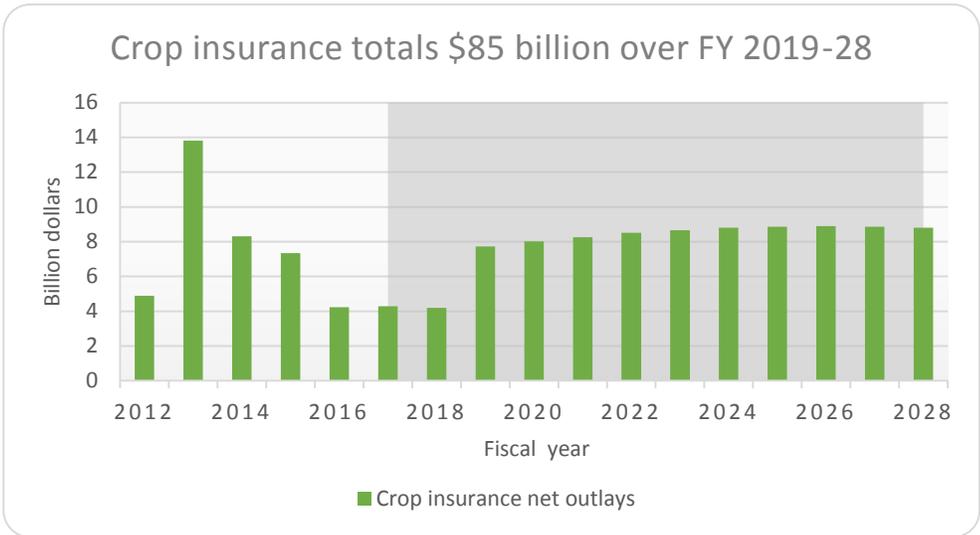
Aggregate indicators

Government costs

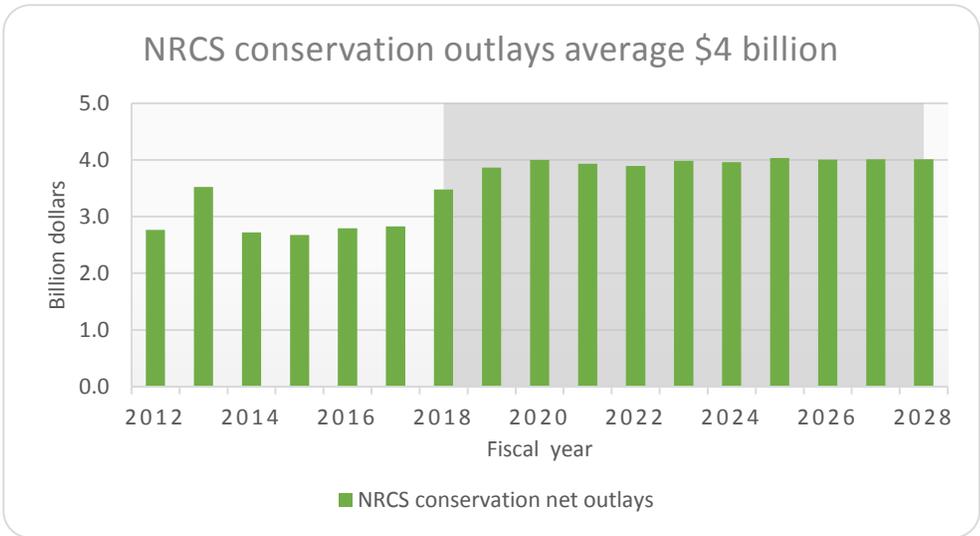
Net Commodity Credit Corporation (CCC) outlays are expected to increase again in fiscal year (FY) 2018. Outlays decline in FY 2019 and 2020 because of lower ARC payments on crops harvested in 2017 and 2018, but then rebound as more producers are assumed to elect PLC in 2019. Between FY 2019 and FY 2028, net CCC outlays total \$96 billion, with major commodity programs accounting for \$64 billion and the Conservation Reserve Program \$22 billion.



Mandatory outlays under the federal crop insurance program were unusually low in FY 2016 and FY 2017, primarily because good yields reduced indemnity payments. Another year of reduced losses on the 2017 crop is expected to keep program costs low in FY 2018. Normal variability in weather and yields in future years results in higher projected outlays, with total program fiscal costs of \$85 billion between FY 2019 and FY 2028.



The Natural Resources Conservation Service (NRCS) operates several mandatory conservation programs, including the Environmental Quality Incentives Program and the Conservation Security Program. The Congressional Budget Office estimated in 2017 that spending on these programs would increase to about \$4 billion per year from FY 2019 to FY 2028. Note that the Conservation Reserve Program is managed by the Farm Service Agency, and its outlays are included in the CCC accounts.



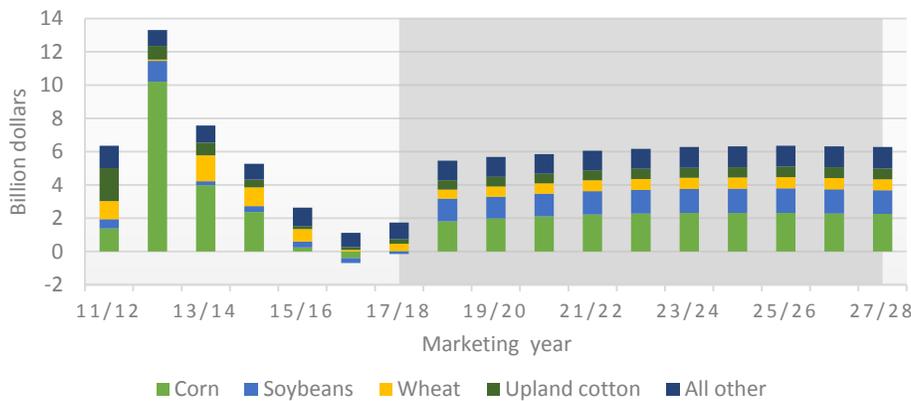
Crop insurance loss ratio was low 3 straight years



Crop insurance

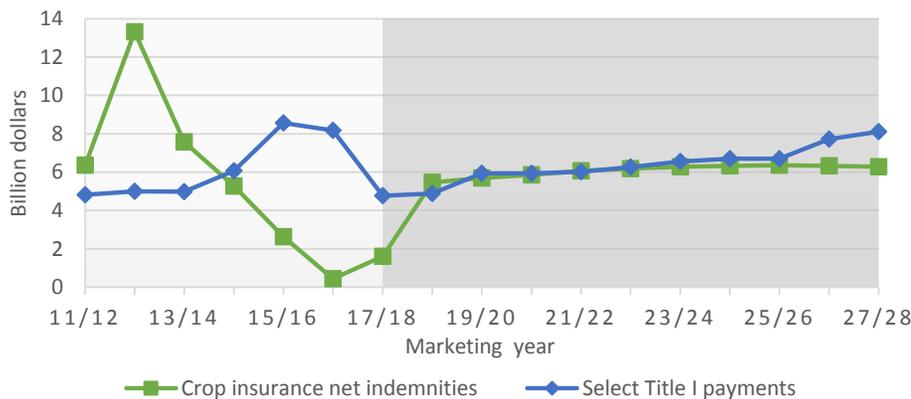
Crop insurance indemnity payments for losses have been unusually low for three straight years, because yields have been at or above trend for most major crops. This has kept the ratio of indemnity payments to total premiums (including both producer-paid and government subsidized premiums) well below 1.0. In the projection period, the distribution of yields, indemnities and premiums results in an average loss ratio of about 0.91. In any given year, the actual loss ratio could be quite different.

Net indemnities rebound with loss ratio



Net indemnities are the difference between indemnity payments for losses and producer-paid premiums. Net indemnities peaked in the drought year of 2012, but record yields resulted in negative net indemnities for some crops in 2016. The projected return to normal loss ratios in 2018 and later years results in average net indemnities of about \$6 billion per year. As with the loss ratio, actual net indemnities in any given year can be much higher or lower than these stochastic average values.

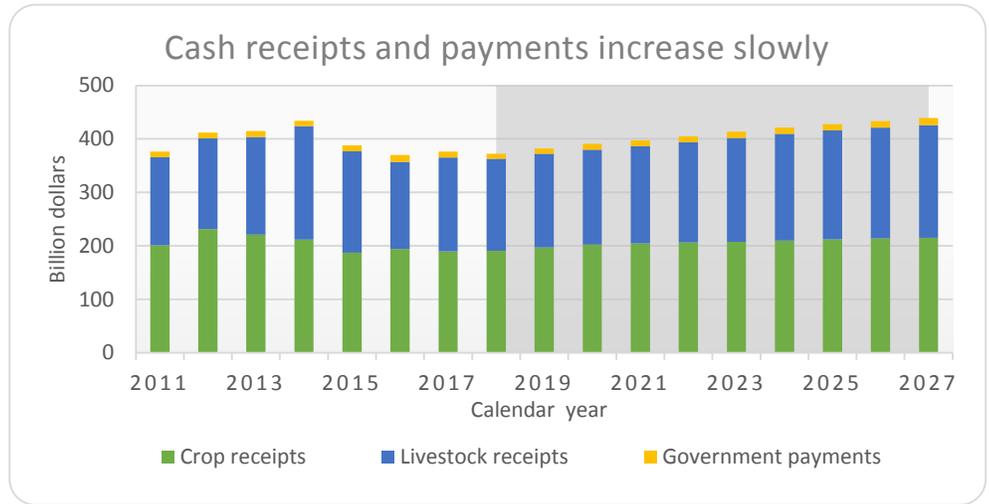
Title I, crop insurance benefits are similar



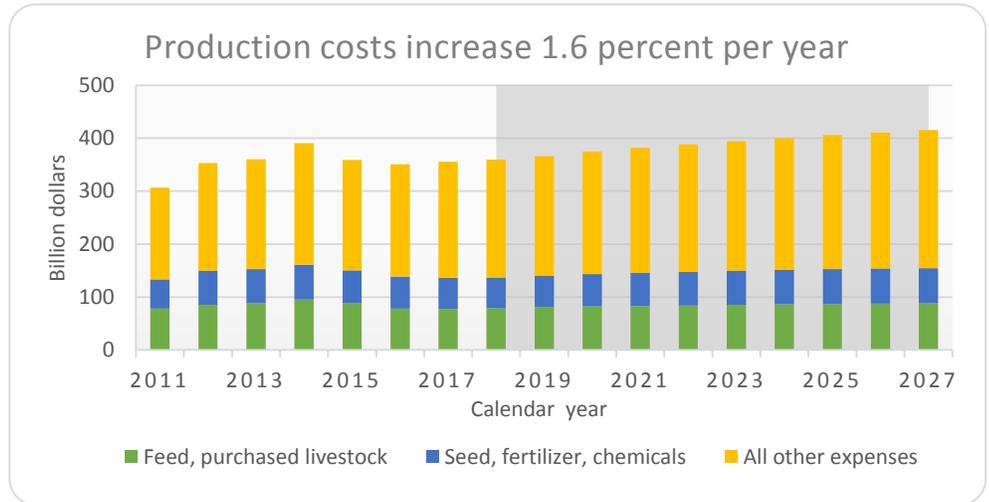
Crop insurance net indemnities can be much greater or smaller than payments under farm bill Title I programs (currently ARC, PLC and marketing loans). From 2018/19 through 2025/26, average Title I payments and crop insurance net indemnities are very similar. In 2026/27 and 2027/28, the assumed end of budget sequestration and slightly lower prices for several crops increase Title I payments. Years with high yields and low prices generally result in high PLC payments but low crop insurance net indemnities.

Farm income, expenses

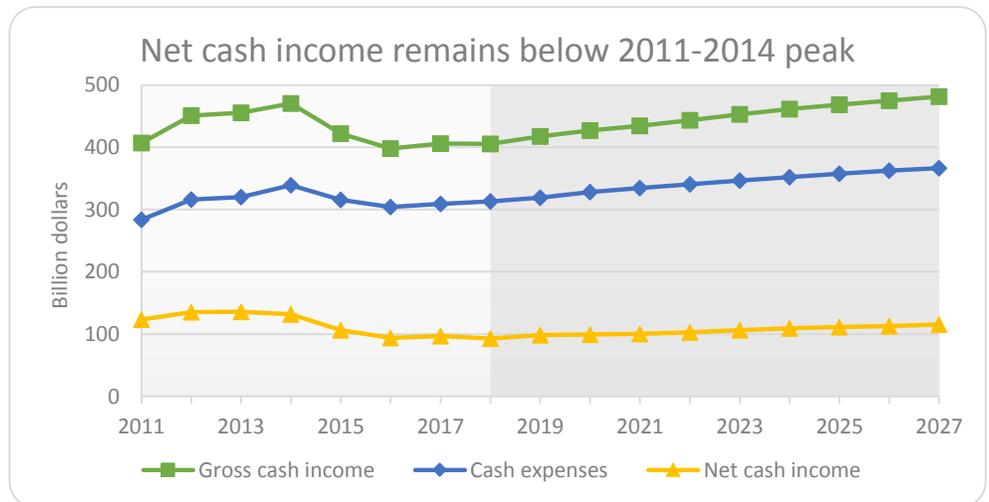
Lower commodity prices reduced farm cash receipts in 2015 and 2016. In 2017, increased production and higher prices for several products increased livestock receipts, while crop receipts dipped slightly. Projected crop receipts increase in 2019 because of higher prices and in later years because of rising production. Livestock receipts reflect cyclical changes in prices and production. Government payments average \$11 billion per year from 2018-2027.



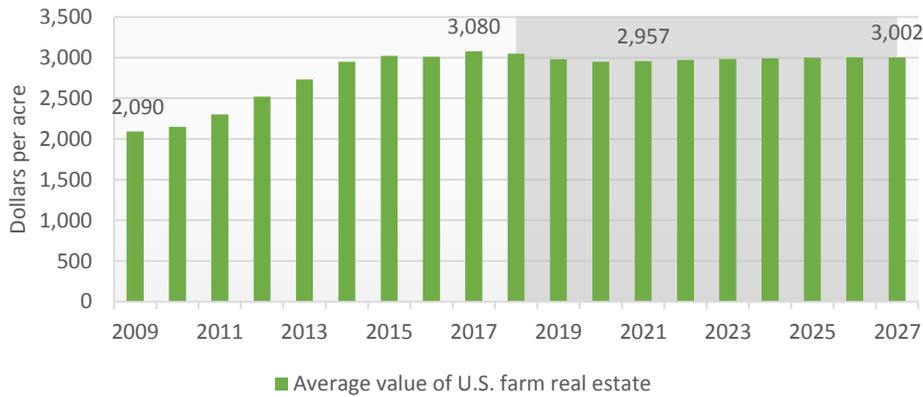
Farm production expenses declined in 2015 and 2016, with lower costs of feed, fuel and fertilizer. USDA reports a modest increase in production costs for 2017, with increased spending on fuel and interest payments. Projected production expenses increase by an average of 1.6 percent per year between 2018 and 2027, reflecting increasing production, higher fuel costs and modest increases in most other input prices.



Between 2014 and 2016, the drop in gross cash income was greater than the decline in cash expenses, resulting in a \$38 billion decline in net cash income. After a modest increase in 2017 and decrease in 2018, net cash income increases at a modest pace beginning in 2019. Even in 2027, however, nominal net cash income remains well below the 2011-2014 peak levels. Net farm income, an alternative measure that accounts for non-money income and depreciation, shows a similar pattern after 2018.



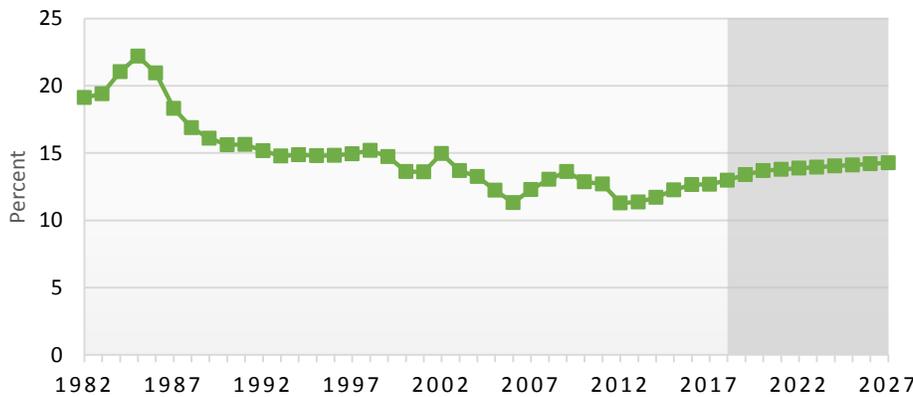
Farmland values dip, reducing farm assets



Farm assets and debt

The average value of farm real estate increased by 47 percent between 2009 and 2017. Projected cropland rental rates are fairly steady, but the average value of farm real estate declines slightly between 2017 and 2021 as interest rates increase. Real estate accounts for more than 80 percent of total farm assets. The value of farm assets dips below \$3 trillion in 2019 and remains below the 2017 value through 2027.

Debt-to-asset ratio rises, but far below 1980s



The ratio of total farm debts to total farm assets peaked during the farm crisis of the 1980s at 22 percent. As asset values increased more rapidly than debts, the ratio dropped to roughly half that level by 2012. The debt-asset ratio increased between 2012 and 2016 as debts increased more rapidly than asset values. The projected debt-asset ratio resumes a modest rate of increase in 2018, but remains below 15 percent through 2027.

Food prices rise with overall inflation after 2017



Consumer food prices

Consumer food prices rose more rapidly than overall consumer prices in 2014 and 2015, in part because of higher meat prices. Consumer food price inflation slowed to less than 1 percent in both 2016 and 2017, partially because of lower consumer meat prices. In the baseline, the average rate of increase in consumer food prices is 2.4 percent per year, almost identical to the rate of increase in the general consumer price index.

Net government outlays

Fiscal year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Feed grains	(Million dollars)										
Corn	3,525	1,607	1,281	2,052	2,145	2,159	2,333	2,522	2,689	2,718	3,335
Sorghum	406	295	208	237	254	249	254	257	256	260	294
Barley	7	92	66	63	75	77	78	89	95	101	120
Oats	20	8	8	12	12	13	13	14	14	15	17
Food grains											
Wheat	2,132	1,244	1,029	1,388	1,359	1,356	1,382	1,430	1,478	1,552	1,713
Rice	978	533	739	740	735	740	724	701	625	561	542
Oilseeds											
Soybeans	359	521	501	461	436	503	560	571	575	576	681
Peanuts	576	517	714	678	631	701	699	702	709	701	774
Other oilseeds	103	99	98	92	90	92	97	98	98	103	112
Other selected commodities											
Upland cotton	111	339	273	313	242	219	268	249	238	251	226
Dairy	260	253	173	158	126	127	165	154	203	169	169
Subtotal, selected commodities	8,476	5,508	5,091	6,196	6,105	6,235	6,574	6,787	6,981	7,008	7,982
CCC conservation											
Conservation reserve	2,001	2,022	2,052	2,122	2,233	2,278	2,269	2,193	2,173	2,210	2,210
Other CCC conservation	1	1	1	1	1	1	1	1	1	1	1
Other CCC											
Disaster payments, NAP	490	460	465	468	466	461	457	459	460	473	473
Other net costs	456	498	507	524	523	517	506	501	495	492	492
Net CCC outlays	11,425	8,489	8,115	9,310	9,328	9,492	9,806	9,941	10,110	10,183	11,157
NRCS conservation	3,479	3,866	3,997	3,931	3,894	3,984	3,961	4,033	4,005	4,012	4,012
Crop insurance	4,200	7,732	8,013	8,248	8,511	8,652	8,797	8,859	8,889	8,860	8,806
Total mandatory outlays	19,104	20,087	20,125	21,489	21,734	22,129	22,564	22,833	23,005	23,056	23,975

Note: "NRCS Conservation" denotes mandatory spending on conservation programs authorized by the 2002, 2008 and 2014 farm bills that is not included in reported CCC outlays. Fiscal years begin on Oct.1 of the previous calendar year (FY 2018: Oct. 1, 2017-Sep. 30, 2018).

All projections are averages across 500 outcomes.

Selected direct government payments

Marketing year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
	(Million dollars)										
ARC payments	2,413	1,935	549	534	603	648	746	782	792	854	946
PLC payments	2,359	2,559	5,034	5,032	5,100	5,298	5,442	5,552	5,563	6,486	6,802
Marketing loans	0	390	358	371	318	310	359	357	345	379	368
Total	4,772	4,884	5,941	5,937	6,021	6,256	6,547	6,692	6,700	7,720	8,116

Note: Includes selected payments for feed grains, food grains, oilseeds, and upland cotton.
All projections are averages across 500 outcomes.

Crop insurance

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Million dollars, crop year)										
Total premiums	10,070	10,243	10,534	10,886	11,170	11,328	11,572	11,664	11,688	11,685	11,602
Producer-paid premiums	3,717	3,808	3,899	4,037	4,150	4,182	4,266	4,291	4,305	4,297	4,275
Premium subsidies	6,354	6,435	6,635	6,848	7,020	7,146	7,306	7,373	7,383	7,388	7,327
Total indemnities	5,317	9,269	9,589	9,886	10,217	10,358	10,544	10,614	10,659	10,626	10,550
Loss ratio	0.53	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
	(Million dollars, crop year)										
Net indemnities	1,600	5,460	5,690	5,849	6,066	6,176	6,278	6,323	6,354	6,329	6,274
Corn	39	1,820	1,978	2,114	2,217	2,279	2,321	2,323	2,325	2,285	2,258
Soybeans	-143	1,352	1,316	1,365	1,407	1,422	1,440	1,458	1,467	1,461	1,429
Wheat	427	545	616	620	651	662	671	674	675	674	661
Upland cotton	273	569	586	574	603	606	607	616	629	643	653
All other	1,004	1,176	1,194	1,176	1,189	1,207	1,239	1,252	1,258	1,265	1,274
	(Million dollars, fiscal year)										
Net outlays	4,293	4,200	7,732	8,013	8,248	8,511	8,652	8,797	8,859	8,889	8,860

All projections are averages across 500 outcomes.

Farm cash receipts

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Billion dollars)										
Feed grains	54.72	55.19	59.85	62.52	63.31	63.62	63.61	63.59	63.81	63.88	63.80
Food grains	10.68	11.31	11.48	11.62	11.66	11.65	11.63	11.71	11.77	11.79	11.75
Oilseeds	41.07	41.32	42.27	42.97	43.08	42.92	42.86	43.19	43.48	43.44	43.21
Cotton	8.07	7.22	7.44	7.71	7.64	7.68	7.71	7.78	7.88	7.90	7.89
Sugar	2.50	2.65	2.64	2.66	2.70	2.77	2.85	2.91	2.98	3.05	3.11
Other crops	72.65	72.73	73.64	74.85	76.21	77.67	79.16	80.67	82.17	83.70	85.31
Cattle	66.54	66.46	65.85	64.67	65.71	68.35	71.61	74.59	76.78	79.15	80.72
Hogs	21.08	20.95	21.20	21.51	22.30	23.03	23.72	24.22	24.35	24.40	24.77
Dairy products	37.83	35.35	36.50	38.42	39.86	41.14	42.41	43.08	43.67	44.16	44.67
Poultry, eggs	42.92	42.33	44.08	45.13	46.01	47.06	48.09	49.09	50.01	50.87	51.66
Other livestock	7.03	7.22	7.36	7.52	7.75	8.00	8.27	8.53	8.75	8.97	9.20
Total cash receipts	365.09	362.72	372.31	379.58	386.25	393.89	401.92	409.36	415.65	421.30	426.09

All projections are averages across 500 outcomes.

Farm production expenses

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Billion dollars)										
Feed	53.97	55.39	58.42	60.48	60.82	60.93	60.75	60.51	60.58	60.58	60.39
Purchased livestock	23.53	23.22	22.43	21.69	22.17	23.24	24.56	25.70	26.39	27.17	27.62
Seed	21.51	21.30	21.21	21.48	21.82	22.14	22.38	22.58	22.75	22.92	23.09
Fertilizer and chemicals	37.24	37.10	37.97	39.64	40.55	41.20	41.82	42.55	43.16	43.46	43.62
Fuels and electricity	19.61	19.89	20.32	21.73	22.71	23.64	24.49	25.27	25.99	26.65	27.30
Interest	19.37	20.51	21.51	22.36	23.03	23.53	23.92	24.24	24.56	24.84	25.10
Contract and hired labor	34.86	35.43	36.25	37.23	38.27	39.36	40.47	41.62	42.81	44.03	45.31
Capital consumption	44.62	44.60	44.53	44.51	44.62	44.79	44.98	45.19	45.39	45.60	45.79
Rent to landlords	19.63	19.47	19.32	19.46	19.72	19.89	19.98	20.03	20.07	20.10	20.09
All other	81.37	82.67	84.09	86.20	87.89	89.44	91.00	92.50	94.00	95.43	96.84
Total production expenses	355.69	359.58	366.03	374.79	381.60	388.15	394.37	400.19	405.70	410.78	415.14

All projections are averages across 500 outcomes.

Farm income statistics

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Billion dollars)										
1. Farm receipts	394.77	396.02	407.63	416.06	423.83	432.41	441.36	449.67	456.81	463.27	468.80
Crops	189.69	190.41	197.31	202.33	204.61	206.30	207.82	209.85	212.10	213.75	215.07
Livestock	175.41	172.31	175.00	177.26	181.64	187.59	194.10	199.51	203.55	207.55	211.01
Farm-related	29.68	33.30	35.32	36.48	37.58	38.52	39.44	40.31	41.16	41.96	42.72
2. Government payments	11.38	9.80	9.88	11.08	11.07	11.21	11.56	11.79	11.92	11.94	12.97
3. Gross cash income (1 + 2)	406.15	405.82	417.51	427.14	434.89	443.62	452.92	461.46	468.74	475.20	481.78
4. Nonmoney income	18.24	19.05	19.61	20.08	20.40	20.59	20.70	20.78	20.83	20.86	20.88
5. Value of inventory Change	-4.93	-4.53	0.13	0.05	-0.57	-0.51	-0.39	-0.22	-0.16	-0.17	-0.15
6. Gross farm income (3 + 4 + 5)	419.46	420.34	437.25	447.26	454.72	463.70	473.23	482.02	489.41	495.89	502.50
7. Cash expenses	309.24	313.15	319.43	328.01	334.58	340.85	346.79	352.37	357.65	362.50	366.66
8. Total expenses	355.69	359.58	366.03	374.79	381.60	388.15	394.37	400.19	405.70	410.78	415.14
9. Net cash income (3 - 7)	96.91	92.67	98.08	99.13	100.31	102.77	106.12	109.09	111.09	112.70	115.12
10. Realized net farm inc (3 + 4 - 8)	68.70	65.29	71.09	72.42	73.68	76.06	79.25	82.05	83.87	85.29	87.52
11. Net farm income (6 - 8)	63.76	60.77	71.22	72.47	73.11	75.55	78.86	81.83	83.71	85.11	87.36
Deflated (2017 \$)	63.76	59.70	68.59	68.26	67.27	67.95	69.39	70.43	70.47	70.10	70.40

All projections are averages across 500 outcomes.

Land rental rates and real estate values

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Rental rates	(Dollars per acre)										
Cropland	136.00	135.24	134.63	135.77	137.63	138.80	139.37	139.62	139.73	139.78	139.57
Pasture	12.50	12.23	11.80	11.61	11.51	11.46	11.49	11.60	11.75	11.91	12.05
Value of farm real estate	3,080	3,049	2,980	2,947	2,957	2,971	2,983	2,992	2,999	3,003	3,002

All projections are averages across 500 outcomes.

Land use for major crops and the conservation reserve

Marketing year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Planted area	(Million acres)										
Corn	90.17	89.72	91.25	92.07	91.90	91.80	91.45	91.12	90.97	90.83	90.85
Soybeans	90.14	89.95	88.06	87.93	87.97	87.81	87.90	88.00	88.05	88.00	87.86
Wheat	46.01	47.21	47.75	47.17	47.17	47.08	47.01	46.87	46.67	46.47	46.25
Upland cotton	12.36	12.13	11.79	11.91	11.69	11.67	11.63	11.62	11.59	11.54	11.50
Sorghum	5.63	6.31	6.34	6.28	6.28	6.29	6.31	6.33	6.34	6.35	6.36
Barley	2.48	2.81	2.94	2.82	2.70	2.66	2.59	2.51	2.44	2.39	2.36
Oats	2.59	2.79	2.73	2.68	2.68	2.71	2.73	2.75	2.75	2.77	2.79
Rice	2.46	2.65	2.59	2.54	2.52	2.51	2.51	2.54	2.57	2.61	2.62
Sunflowers	1.40	1.47	1.46	1.45	1.45	1.43	1.43	1.43	1.43	1.43	1.43
Peanuts	1.87	1.70	1.69	1.67	1.72	1.69	1.67	1.66	1.66	1.66	1.65
Sugar beets	1.13	1.14	1.13	1.13	1.14	1.15	1.17	1.18	1.20	1.21	1.22
Sugar cane (harvested)	0.90	0.91	0.90	0.90	0.90	0.89	0.90	0.90	0.90	0.90	0.90
12 crop planted area	257.15	258.80	258.64	258.55	258.12	257.70	257.30	256.90	256.56	256.15	255.78
Hay (harvested)	53.78	53.85	54.35	54.55	54.62	54.58	54.55	54.51	54.48	54.50	54.52
12 crops + hay	310.93	312.66	312.99	313.11	312.74	312.28	311.85	311.41	311.04	310.65	310.29
Conservation reserve (CRP)	23.43	23.40									
12 crops + hay + CRP	334.36	336.06	336.39	336.51	336.14	335.68	335.25	334.81	334.44	334.05	333.69
Double-crop soybeans	3.71	3.90	3.86	3.85	3.85	3.83	3.81	3.80	3.78	3.76	3.73
12 crops + hay + CRP - double-crop soybeans	330.66	332.16	332.53	332.66	332.28	331.85	331.43	331.02	330.66	330.29	329.96

All projections are averages across 500 stochastic outcomes.

Balance sheet of the farm sector

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Dollars per acre)										
Assets	3,040	3,023	2,984	2,970	2,985	2,998	3,008	3,015	3,021	3,024	3,023
Real estate	2,525	2,502	2,450	2,425	2,433	2,444	2,453	2,459	2,465	2,467	2,467
Other assets	515	521	534	545	552	555	555	556	557	556	556
Debts	385	392	400	407	411	416	420	423	426	429	431
Real estate	236	242	244	245	246	247	248	249	249	250	250
Other debts	149	151	155	161	166	169	172	174	177	179	181
Debt/asset ratio	12.7%	13.0%	13.4%	13.7%	13.8%	13.9%	13.9%	14.0%	14.1%	14.2%	14.3%

All projections are averages across 500 outcomes.

Consumer price indices for food

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(1982-84=100)										
Total food	250.1	255.0	261.1	267.8	274.9	282.0	289.3	296.4	303.5	310.5	317.4
(Inflation rate)	0.9%	2.0%	2.4%	2.6%	2.7%	2.6%	2.6%	2.5%	2.4%	2.3%	2.3%
Food at home	238.6	242.1	247.3	253.5	260.1	266.7	273.4	279.9	286.4	292.8	299.2
Cereal and bakery	271.7	277.2	283.6	290.6	297.5	304.2	311.0	317.7	324.6	331.4	338.4
Meat	245.8	248.8	253.2	258.5	265.1	272.3	279.8	287.3	294.2	301.0	307.6
Dairy	217.5	219.9	224.4	231.3	238.0	244.6	251.0	257.0	262.8	268.7	274.6
Fruit and vegetables	295.7	300.3	307.1	315.5	323.8	332.1	340.2	348.2	356.1	364.0	372.0
Other food at home	209.9	212.4	217.0	221.9	227.0	231.9	236.9	241.8	246.9	251.9	257.0
Sugar and sweets	215.1	219.0	224.1	229.3	235.0	240.3	246.1	251.7	257.3	263.0	268.7
Fats and oils	227.7	231.6	236.8	242.9	249.7	255.9	262.0	268.4	275.2	281.7	288.4
Other prepared items	224.4	226.7	232.3	238.2	244.1	249.9	255.7	261.5	267.4	273.2	279.2
Non-alc. beverages	167.6	169.5	172.4	175.4	178.6	181.7	184.9	188.1	191.2	194.4	197.6
Food away from home	268.8	275.8	283.0	290.3	298.1	306.0	314.1	322.0	329.9	337.6	345.4

All projections are averages across 500 stochastic outcomes.

Consumer expenditures for food

Calendar year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	(Dollars per person)										
Total food per capita	4,721	4,867	5,023	5,186	5,350	5,515	5,681	5,846	6,008	6,170	6,331
Food at home	2,278	2,323	2,382	2,451	2,519	2,588	2,656	2,723	2,790	2,855	2,922
Food away from home	2,443	2,544	2,641	2,736	2,831	2,927	3,025	3,122	3,219	3,314	3,409
Multiply by population for:	(Billion dollars)										
Total U.S. food expenditures	1,537	1,598	1,662	1,729	1,798	1,868	1,939	2,009	2,081	2,152	2,223

All projections are averages across 500 stochastic outcomes.

Stochastic results

Marketing year	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28
Corn price	(Dollars per bushel)										
90th percentile	3.34	4.44	4.90	5.00	4.95	4.77	4.67	4.71	4.50	4.67	4.61
Expectation	3.23	3.57	3.82	3.81	3.80	3.76	3.70	3.68	3.64	3.62	3.54
10th percentile	3.14	2.80	2.85	2.91	2.88	2.86	2.81	2.82	2.78	2.69	2.67
Soybean price	(Dollars per bushel)										
90th percentile	9.59	12.08	12.55	12.76	12.65	12.60	12.30	12.45	12.18	12.13	11.80
Expectation	9.23	9.38	9.75	9.81	9.75	9.63	9.51	9.53	9.44	9.34	9.22
10th percentile	8.94	7.10	7.23	7.28	7.14	6.98	6.93	6.98	6.94	6.83	6.65
Wheat price	(Dollars per bushel)										
90th percentile	4.73	6.05	6.33	6.58	6.52	6.56	6.44	6.47	6.41	6.42	6.26
Expectation	4.68	4.89	4.95	5.03	5.04	5.02	4.96	4.97	4.90	4.85	4.80
10th percentile	4.63	3.78	3.58	3.64	3.63	3.58	3.58	3.51	3.58	3.47	3.36
PLC payments	(Million dollars)										
90th percentile	2,509	4,306	11,908	10,717	11,491	11,874	12,473	12,315	12,845	14,661	14,882
Expectation	2,359	2,559	5,034	5,032	5,100	5,298	5,442	5,552	5,563	6,486	6,802
10th percentile	2,189	1,015	939	971	1,027	939	970	856	862	922	985
ARC payments	(Million dollars)										
90th percentile	2,867	4,194	1,315	1,311	1,389	1,539	1,718	1,820	1,848	1,936	2,089
Expectation	2,413	1,935	549	534	603	648	746	782	792	854	946
10th percentile	1,924	383	79	54	74	73	93	86	115	95	94
Crop ins. net indemnities	(Million dollars)										
90th percentile	1,705	9,149	9,297	9,897	10,813	10,729	10,403	9,889	10,660	10,271	10,149
Expectation	1,600	5,460	5,690	5,849	6,066	6,176	6,278	6,323	6,354	6,329	6,274
10th percentile	1,476	2,621	2,405	2,839	2,594	2,920	3,244	3,454	3,134	3,386	3,063