



I ARC/PLC, 2019 Grain Farm Income, and 2020 Cash Rent Update

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ARC/PLC

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Farm Bill 2018: Commodity Title

- On a FSA farm basis, allows a choice between:
 - Price Loss Coverage (PLC)
 - Agricultural Risk Coverage – County Level (ARC-CO)
 - ARC – Individual Coverage (ARC-IC)
- For 2014 Farm Bill likely made a choice of ARC-CO for corn and soybeans, don't assume this is the correct choice for 2018 Farm Bill
- Choice will initially be made for 2019 and 2020
- Make a yearly choice after that: 2021, 2022, 2023



Price Loss Coverage

- Makes payments when **market year average (MYA)** price is below effective reference price
- MYA price is a national average price:
 - September or August for corn and soybeans
 - June to May for wheat



Effective Reference Price

Higher of

- 85% of 5-year Olympic moving average
- Reference price

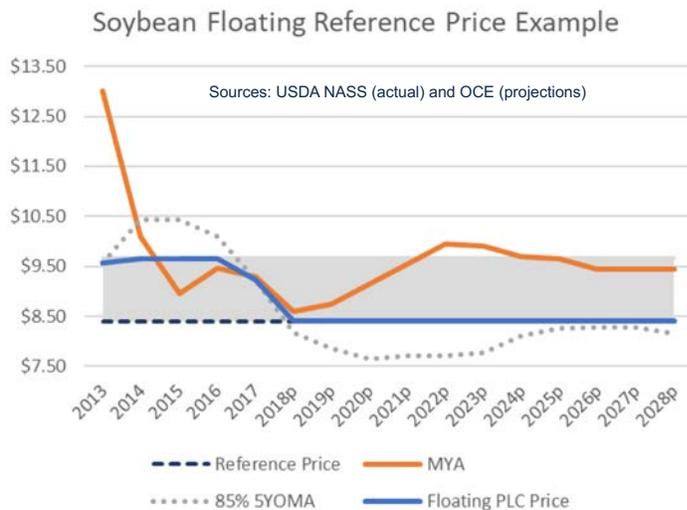
Reference Prices	
Corn	\$3.70
Soybeans	\$8.40
Wheat	\$5.50

Addition of 85% of 5-year Olympic average not likely come into play
5-year Olympic average must be **above**

- \$4.35 for corn
- \$9.88 for soybeans
- \$6.47 for wheat



2018 Farm Bill: Reference Price



- USDA Chief Economist Forecast – likely too high
- MYA expected above \$8.40 Reference Price
- Effective reference price “escalator” (85% of 5 year Olympic moving average) not effective





Yield Update for PLC

- Update yields on a crop and farm basis
- Higher of:
 - Current PLC yield, or
 - 2013 to 2017 average \times $\underbrace{.9 \times \text{national yield ratio}}$

.81 for corn, soybeans and wheat (most likely)

**Update if that yield is higher
(My advice: Use crop insurance yields)**



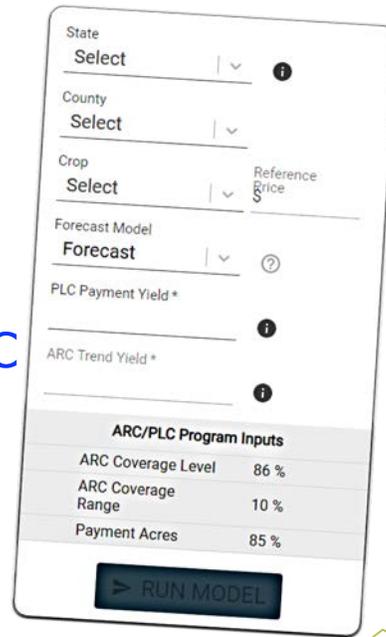
Changes to ARC-CO

- Payments will be made based on the county the farm is located in
- Use 80% of t-yield as a plug (was 70%)
- Use trend adjusted yields in guarantee (increase payments)
- Use effective reference price (higher of reference price or 85% of 5-year Olympic moving average price)



Demonstrate ARC/PLC Tool

<https://Go.Illinois.edu/fd-ARCPLC>



Change the county yields and Market Year Average (MYA) prices for 2018 to see payments under ARC-County and PLC. Payments are stated per base acre, as such they are multiplied by .85. If there are 100 base acres per farm, multiple the result below by 100.

Input	Agricultural Risk Coverage (ARC) - County		Price Loss Coverage (PLC)				
	Year	County Yield	MYA Price ¹	Benchmark Yield ²	ARC Price ³	ARC Guarantee ⁴	ARC Payment ⁵
2009	183	3.55					
2010	163	5.18					
2011	177	6.22					
2012	134	6.89					
2013	187	4.46				\$/acre	\$/acre
2014	198	3.70	174	5.29	792	46.74	0
2015	178	3.61	176	5.29	801	73.75	10
2016	205	3.36	181	4.79	746	45.00	36
2017	210	3.36	188	3.95	639	0.00	36
2018	215	3.50	197	3.70	627	0.00	21
Five-Year Average						33.10	21

National loan rate equals: 1.95

Reference price equals: 3.70

2014 ARC-CO CORN, LASALLE COUNTY



ARC and PLC payments:

ARC-CO and PLC payments are given on a per base acre basis. Payments are adjusted to account for the fact that payments are made on 85% of base acre.

Actual payments are given for 2014 through 2017. Payments are adjusted for a 6.8% sequester.

- ¹ Market year average price which is a national price for a marketing year.
- ² Equals Olympic average of five-previous yields. Olympic averages eliminate high and low observations.
- ³ Equals Olympic average of five-previous prices, price can not be less than reference price.
- ⁴ Equals benchmark yield x benchmark price x .86.
- ⁵ Equals .85 x minimum of (ARC guarantee - county yield x MYA price) or (10% of benchmark yield x benchmark price), when county revenue is less than ARC guarantee, zero otherwise. Reduced by sequester (6.8%).
- ⁶ Equals (reference price - higher of MYA price or national loan rate) x PLC payment yield x .85. Reduced by sequester (6.8%)



State *
Illinois

County *
LaSalle

Crop *
Corn

Reference Price
\$ 3.7

PLC Payment Yield *
160 bushels/acre

Payment Acres
0.85 %

ARC Coverage Level
0.86 %

ARC Coverage Range
0.1 %

▶ RUN MODEL

	Expected Payment (\$)	Likelihood of Payment (avg)	Simulation Distribution	Simulated Price (\$)	Simulated Yield (bushel/acre)
2019	9.02 39.36	25% 56%		3.64	192.5
2020	10.17 38.01	25% 55%		3.67	194.5
2021	9.22 37.27	22% 54%		3.69	196.5
2022	9.97 36.37	26% 53%		3.69	198.5
2023	10.30 35.90	25% 52%		3.70	200.6

Tool that will be on farmdoc

Change the county yields and Market Year Average (MYA) prices for 2018 to see payments under ARC-County and PLC. Payments are stated per base acre, as such they are multiplied by .85. If there are 100 base acres per farm, multiple the result below by 100.

2014 ARC-CO SOYBEANS, LASALLE COUNTY

Input Year	County Yield	MYA Price ¹	Agricultural Risk Coverage (ARC) - County				Price Loss Coverage (PLC)
			Benchmark		ARC Guarantee ⁴	ARC Payment ⁵	Payment ⁶
			Yield ²	Price ³			
2009	46	9.59					
2010	52	11.30					
2011	59	12.50					
2012	49	14.40					
2013	54	13.00					\$/acre
2014	60	10.10	52	12.27	549	0.00	0
2015	58	8.95	55	12.27	580	48.54	0
2016	61	9.47	57	11.87	582	3.33	0
2017	61	9.33	57	10.86	532	0.00	0
2018	68	8.60	60	9.63	497	0.00	0
Five-Year Average						10.37	0

National loan rate equals: 5.00

Reference price equals: 8.40



State *
Illinois

County *
LaSalle

Crop *
Soybean Reference Price
\$ 8.4

PLC Payment Yield *
55 bushels/acre

Payment Acres
0.85 %

ARC Coverage Level
0.86 %

ARC Coverage Range
0.1 %

RUN MODEL

	Expected Payment (\$)	Likelihood of Payment (avg)	Simulation Distribution	Simulated Price (\$)	Simulated Yield (bushel/acre)
2019	3.73 5.90	17% 22%		9.30	56.2
2020	3.25 6.17	14% 23%		9.30	56.7
2021	2.60 6.13	11% 22%		9.30	57.2
2022	1.87 6.03	11% 23%		9.30	57.6
2023	1.71 6.14	9% 22%		9.30	58.1

Tool that will be on farmdoc

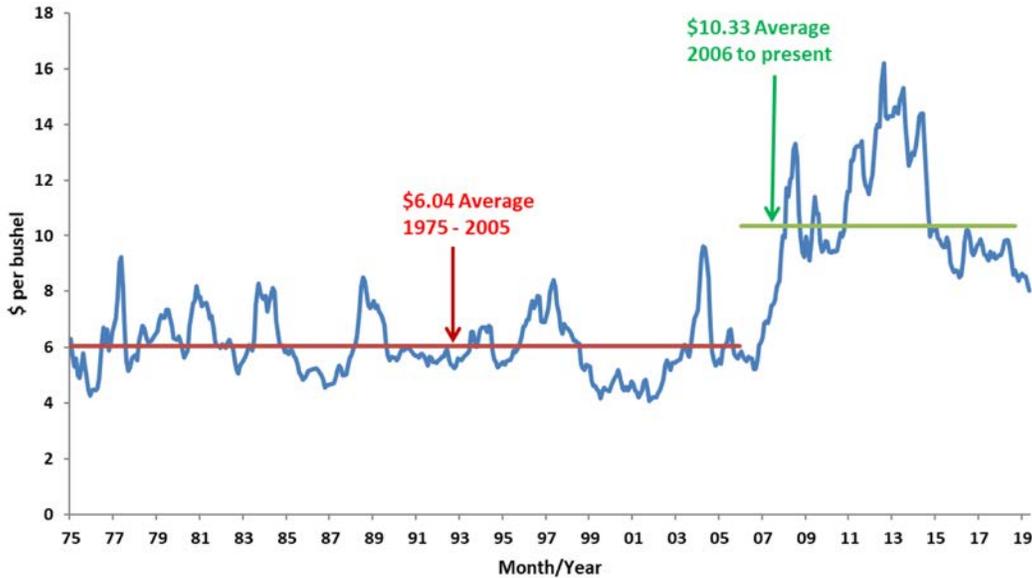
2018 Farm Bill: Loan Rate Update

2018 Farm Bill Loan Rates

Loan Commodity	Current Loan Rate	2019 to 2023 Loan Rate	Percentage Increase
WHEAT (bu.)	\$2.94	\$3.38	114.97%
CORN (bu.)	\$1.95	\$2.20	112.82%
GRAIN SORGHUM (bu.)	\$1.95	\$2.20	112.82%
BARLEY (bu.)	\$1.95	\$2.20	112.82%
UPLAND COTTON (lb.)	2-year average of world prices (between \$0.45 and \$0.52/lb.)	2-year average of world prices, not less than 98% of previous year (between \$0.45 and \$0.52/lb)	
LONG GRAIN RICE (cwt.)	\$6.50	\$7.00	107.69%
MEDIUM GRAIN RICE (cwt.)	\$6.50	\$7.00	107.69%
SOYBEANS (bu.)	\$5.00	\$6.20	124.00%
PEANUTS (tons)	\$355	\$355	100.00%



Soybean Prices, US, Monthly



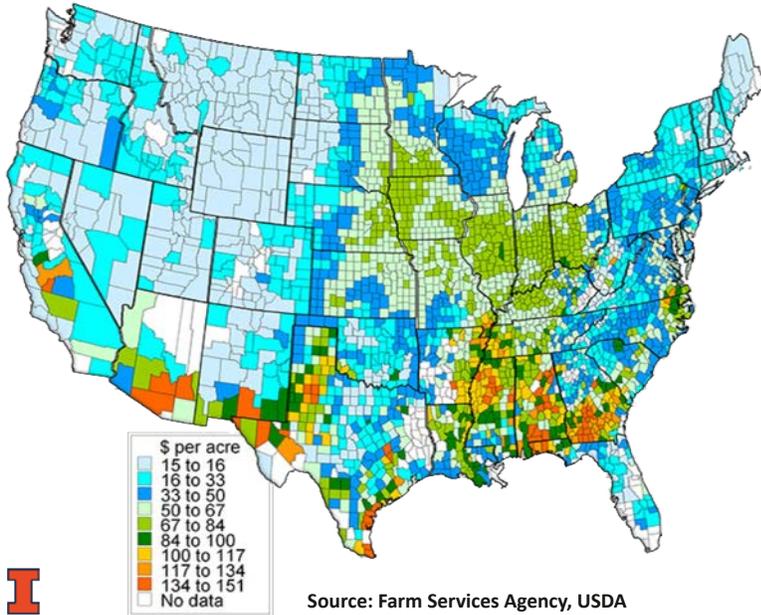
MYA Prices and Projections for 2019 and 2020

Market Year	Corn	Soybeans	Wheat
2013	4.46	13.00	6.87
2014	3.70	10.10	5.99
2015	3.61	8.95	4.89
2016	3.36	9.47	3.89
2017	3.36	9.33	4.72
2018	3.55	8.66	5.15
2019P	3.60	8.40	5.00
2020P	3.70	8.80	5.00

- Corn prices continues to be below \$4.00
 - My opinion, higher corn prices are the last hope for higher incomes in 2019
- Soybean prices are below \$9.00
 - Trade uncertainty
 - African Swine Fever
 - Large carryout of U.S. stocks



MFP Rates for 2019



Source: Farm Services Agency, USDA

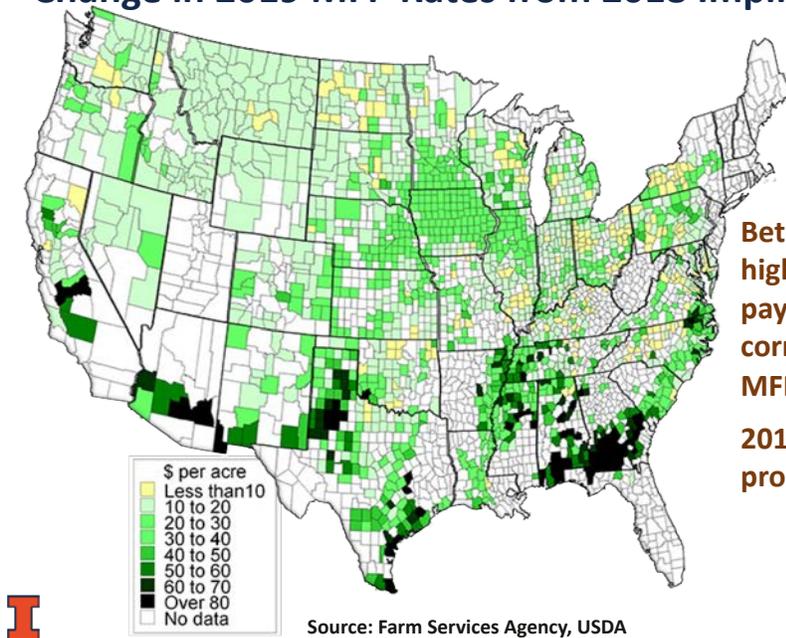
MFP in 2019

- Rate per county in Illinois ranged from \$53 per planted acre to \$87 per planted acre
- Received one-half the payment soon, and other half two-installments: Oct-Nov and January, 2020
- Last half is not assured

\$15 per acre payment for prevent plant if planted to a cover crop by August 1



Change in 2019 MFP Rates from 2018 Implied MFP Rates



Source: Farm Services Agency, USDA

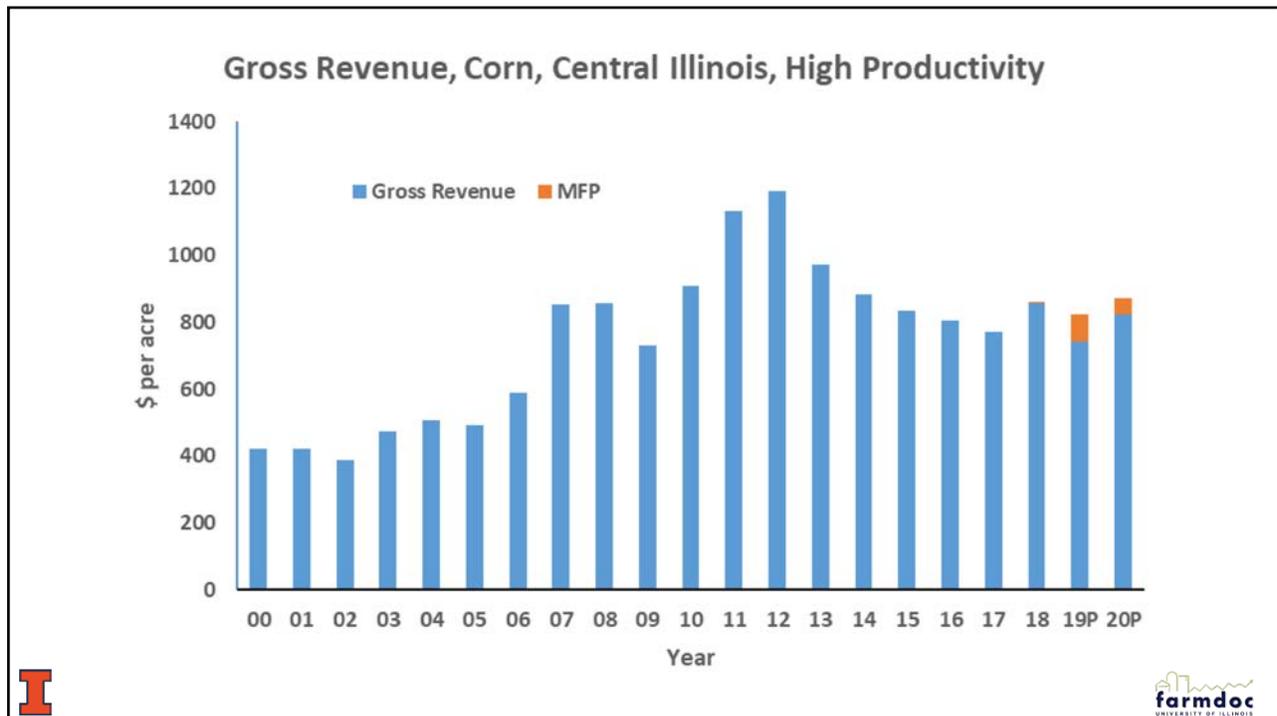
MFP in 2019

Between \$20 and \$30 per acre higher in Midwest than 2018 payment when averaged over all corn, soybeans, wheat, and other MFP crops

2018 paid based on bushels producers:

- \$0.01 per bushel for corn
- \$1.65 per bushel for soybeans
- \$0.14 per bushel for wheat





	Year		
	2018	2019P	2020P
Yield per acre	237	195	211
Price per bu	\$3.60	\$3.70	\$3.90
Crop revenue	\$853	\$722	\$823
ARC/PLC	0	10	0
MFP	1	82	50
Crop insurance proceeds	2	10	0
Gross revenue	\$856	\$824	\$873
Total direct costs	\$373	\$393	\$391
Total power costs	\$128	\$125	\$125
Total overhead costs	\$73	\$74	\$74
Total non-land costs	\$574	\$592	\$590
Operator and land return	\$282	\$232	\$283
Land costs	274	274	270
Farmer return	\$8	-\$43	\$13

Corn, Central Illinois, High-Productivity

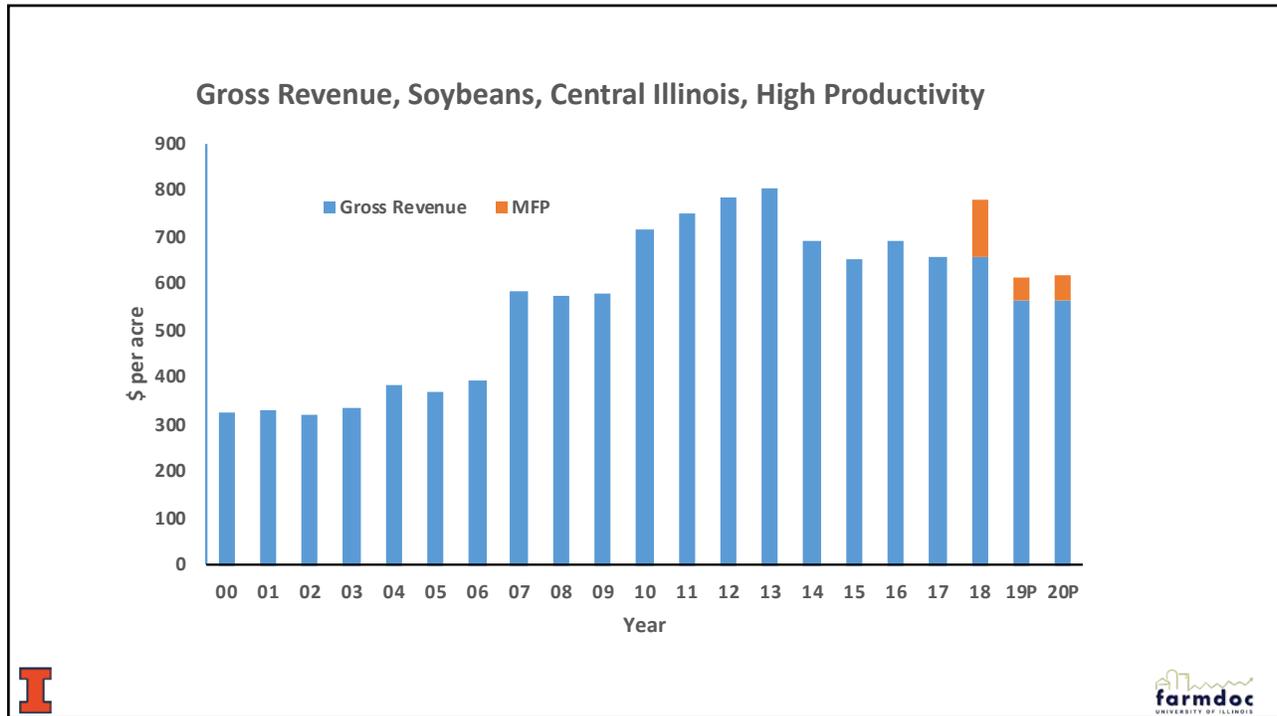
Notes:

There is an MFP of \$50 for 2020. This has not been announced. It is simply my speculation.

To get 2020 farmer return next year to \$0 at \$3.90 price need:

- MFP or
- 12 bushel higher yields





	Year		
	2018	2019P	2020P
Yield per acre	74	55	63
Price per bu	\$8.85	\$8.50	\$9.00
Crop revenue	\$655	\$468	\$567
ARC/PLC	0	10	0
MFP	122	82	50
Crop insurance proceeds	4	5	0
Gross revenue	\$781	\$565	\$617
Total non-land costs	\$353	\$355	\$355
Operator and land return	\$428	\$210	\$262
Land costs	274	274	270
Farmer return	\$154	-\$65	-\$8

Soybeans, Central Illinois, High-Productivity

Notes:

There is an MFP of \$50 for 2020. This has not been announced. It is simply my speculation.

To get 2019 farmer return next year to \$0 at \$8.50 price need:

- \$MFP or
- 6 bushel higher yields

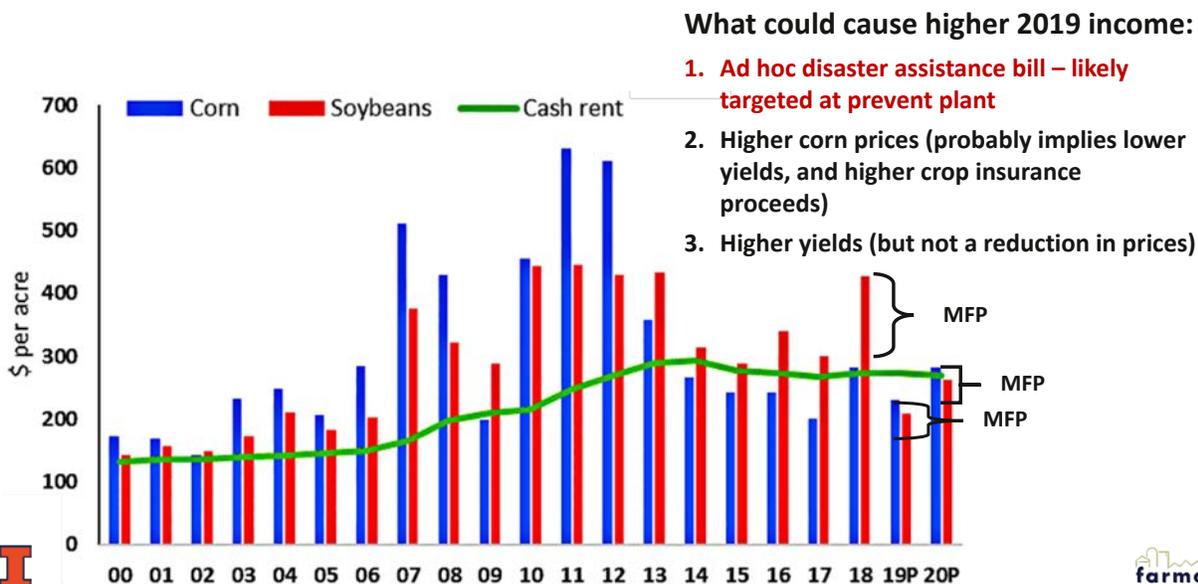


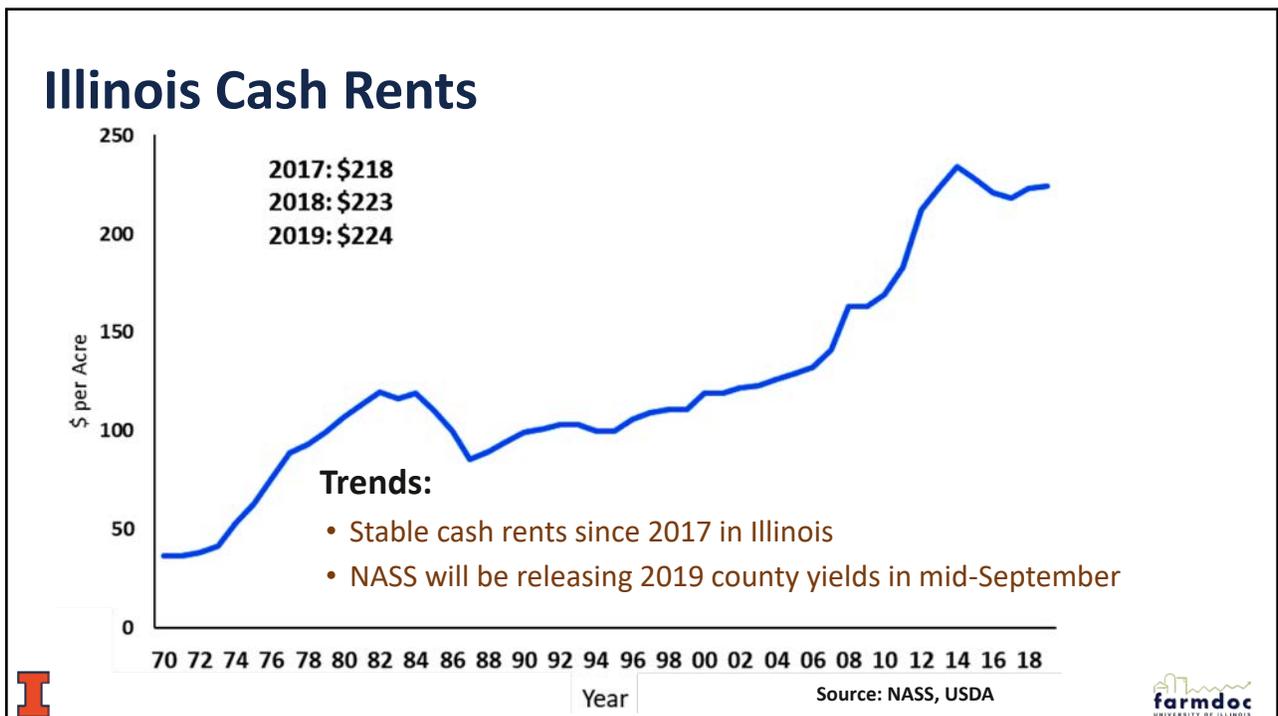
Prevent Plant, Central Illinois, High-Productivity

	Corn	Soybean	Prevent Planting	
			Corn	Soybeans
Yield per acre	195	55		
Harvest Price	\$3.70	\$8.70		
basis	\$0.00	\$0.20		
Cash price per bushel	\$3.70	\$8.50		
Crop revenue	\$722	\$468	0	0
MFP	82	82	15	15
ARC/PLC	10	10	10	10
Crop Insurance proceeds	10	5	0	0
Prevent planting payment	0	0	410	285
Gross revenue	\$824	\$565	\$435	\$310
Total direct costs	\$393	\$183	\$49	\$49
Total power costs	\$125	\$104	\$66	\$66
Total overhead costs	\$74	\$68	\$62	\$62
Total non-land costs	\$592	\$355	\$177	\$177
Operator and land return	\$232	\$210	\$258	\$133
Land costs	274	274	274	274
Farmer return	-\$43	-\$65	-\$16	-\$141



Operator and Land Return for Corn and Soybeans and Cash Rent, Central Illinois, High-Productivity Farmland





Illinois Society of Professional Farm Managers and Rural Appraisers indicate very slight decreases in 2010 cash rents

2019 Actual and 2020 Expected Cash Rents

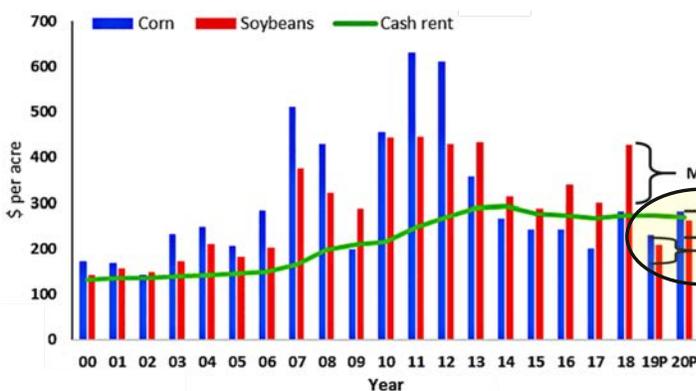
Land Productivity	2019 Rent	Expected 2020 Rent
	\$/acre	\$/acre
Excellent	302	298
Good	261	254
Average	212	205
Fair	170	167

- Values represent rents on professionally managed farmland

- Agricultural returns suggests lower cash rents, but cash rents are sticky



Operator and Land Return for Corn and Soybeans and Cash Rent, Central Illinois, High-Productivity Farmland



Pressures on rents

Decline in returns during 2014 to 2018, average cash rents have come down slightly.

2019 and 2020 represent another step down

Pressures on lowering cash rents are building because of:

- Extended period of lower returns (2013 on)
- Now expectations of \$8ish per bushel soybeans for the foreseeable future
- Reductions in working capital



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Gary Schnitkey



Jonathan Coppess



Nick Paulson

State
Select

County
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Crop
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Forecast Model
Forecast

ARC/PLC Program Inputs

ARC Coverage Level	86 %
ARC Coverage Range	10 %
Payment Acres	85 %

RUN MODEL

<https://go.illinois.edu/fd-ARCPLC>



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