Crop Risk Management for 2023 Prices, Budgets, and Risk Management Decisions farmdoc

Gary Schnitkey



Nick Paulson

Two of these webinar

Today's webinar

- Budgets
- 2023 decisions
- Context for 2024 decisions

March 2, 2023 @ 9 am

- Crop insurance decisions in greater detail



Topics

Prices

Budgets

2023 Risk Management decisions
Marketing
ARC or PLC
Crop insurance

Longer-term (Summer 2023)















Context

Farm Incomes have been exceptional in 2021 and 2022

Most farmers have built financial position

High costs – much higher break-even price



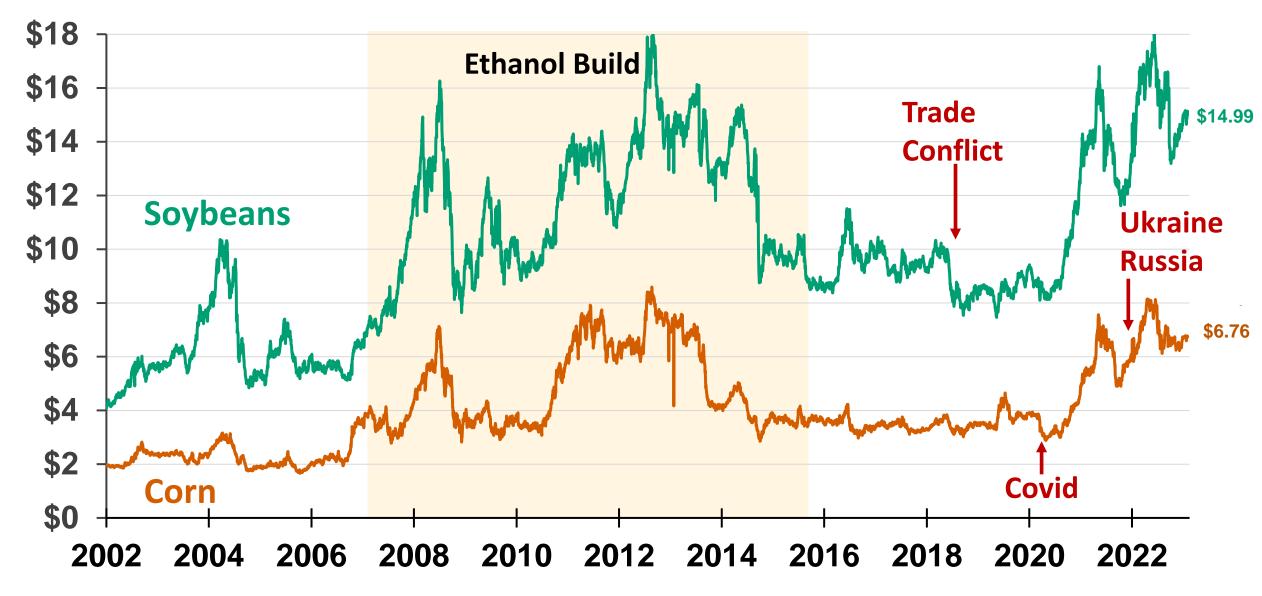


Corn and Soybean Prices





Corn and Soybean Cash Prices, Central Illinois



U.S. Prices by Marketing Year

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Corn	3.36	3.61	3.56	4.53	5.95	6.70	5.60
Soybeans	9.33	8.47	8.57	10.80	13.60	14.30	13.40
Wheat	4.72	5.16	4.58	5.05	7.63	9.00	7.30
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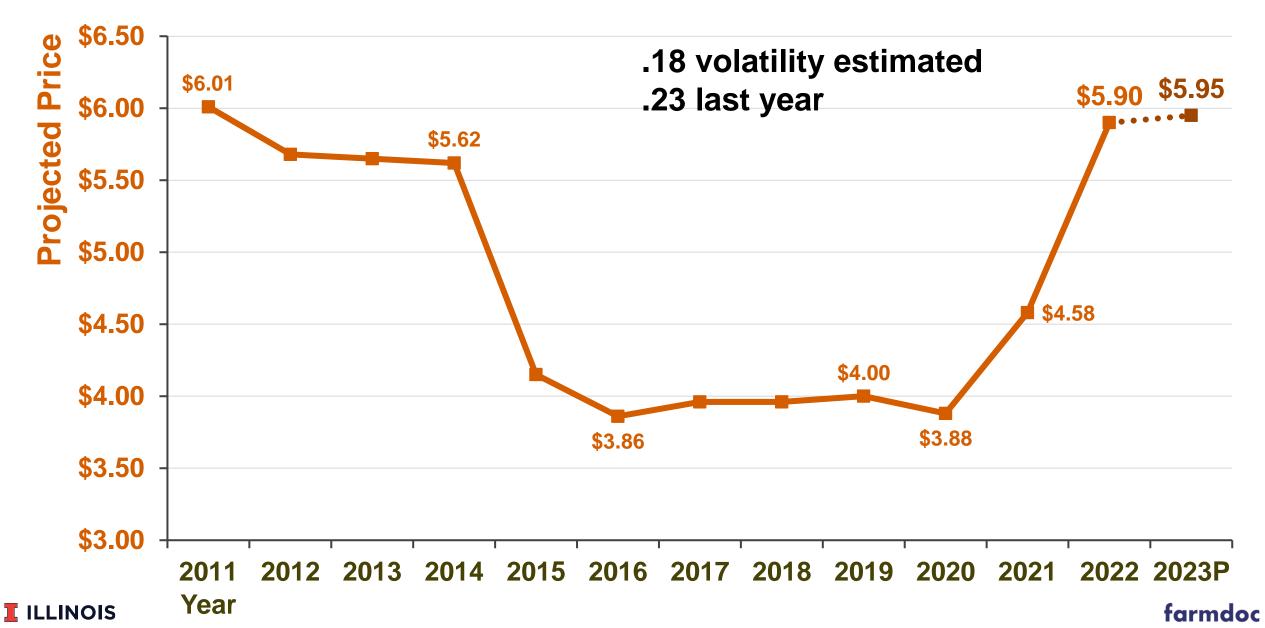
National Market Year Average (MYA) price by year

- September to August for corn and soybeans
- June to May for wheat

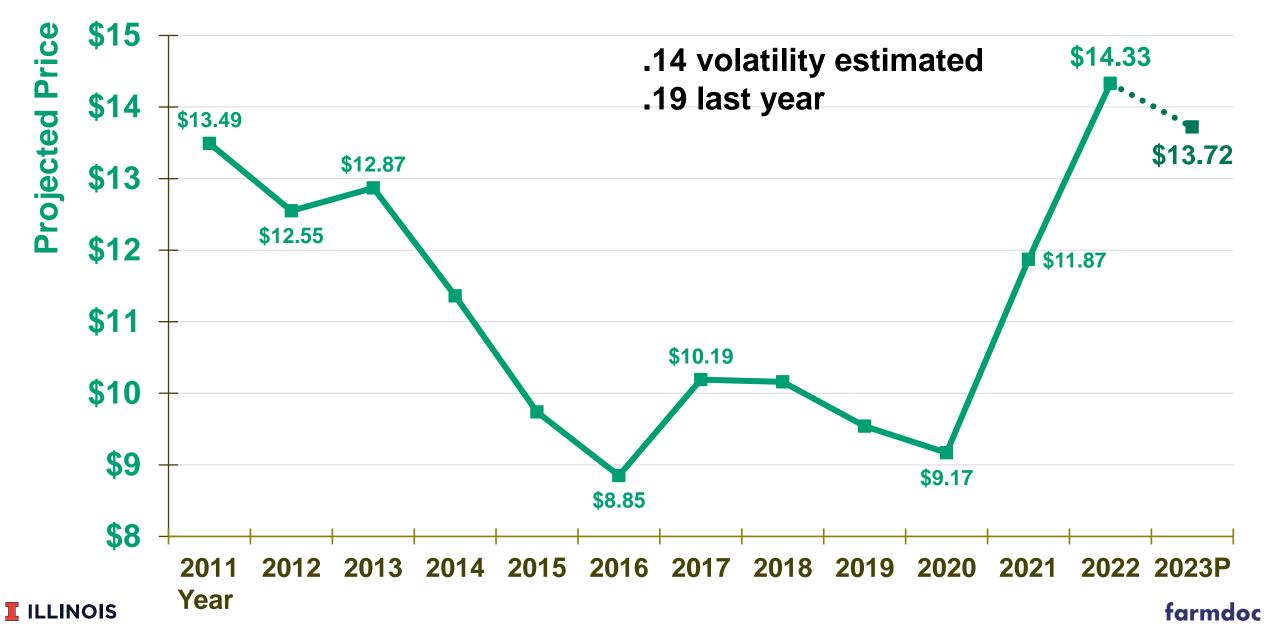
Calculated by NASS

- 2022-23 is projection in WASDE report
- 2023-24 is our projection

Corn Projected Prices



Soybean Projected Prices



Corn Budgets for Central Illinois High Productivity Farmland





Corn Budget: Revenue for Central Illinois High Productivity Farmland

	2019	2020	2021	2022	2023	
Yield per acre	208	214	221	225	227	
Price per bu	\$3.63	\$4.34	\$5.90	\$6.40	\$5.60	
Crop revenue	\$755	\$929	\$1,304	\$1,440	\$1,271	
ARC/PLC	10	0	0	0	0	
Other gov't payments	110	68	0	0	0	
Crop insurance proceeds	14	9	14	0	0	\sim
Gross Revenue	\$889	\$1,006	\$1,318	\$1,440	\$1,271	

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2022 and 2023 are Projected

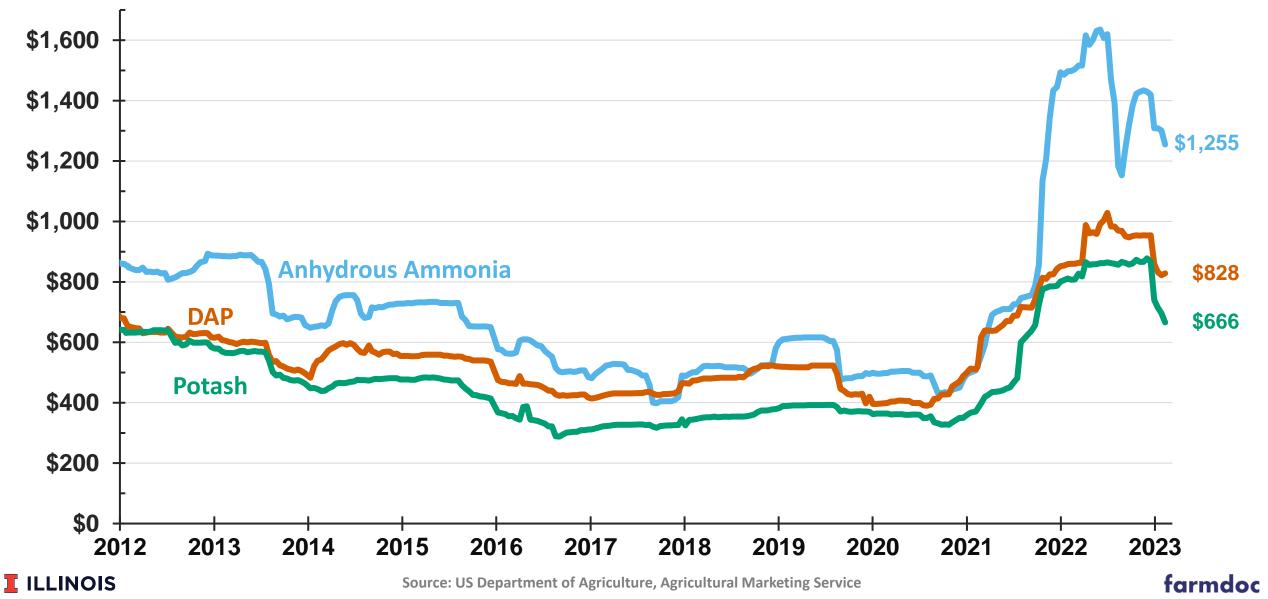


Corn Budget Total Direct Costs for Central Illinois High Productivity Farmland **Fertilizers** Pesticides Seed Drying Storage Crop insurance \$386 \$582 \$403 \$514 **Total direct costs** \$415

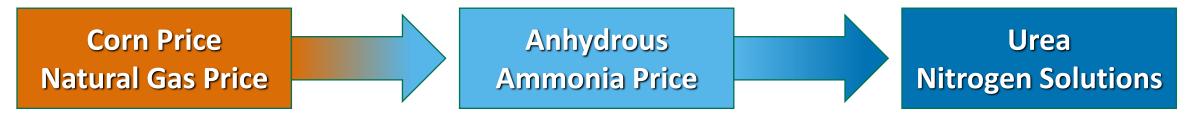
2022 and 2023 are Projected

Fertilizer Prices per Ton in Illinois

2012 to February 9, 2023



Price impacts



Corn price and natural gas price impact positively anhydrous ammonia price

Anhydrous ammonia, urea, and nitrogen solution prices are very highly correlated

Wholesale and retail nitrogen prices are highly correlated

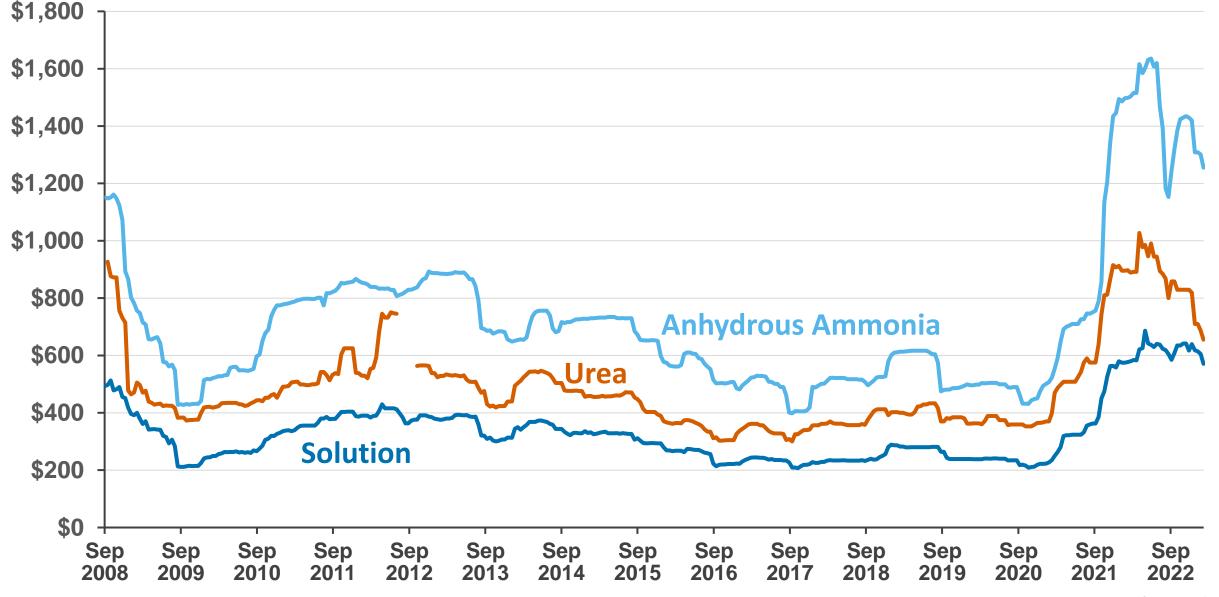
Worst risk situation: Buy high priced nitrogen and corn/wheat prices fall

I will show Illinois retail prices, but are highly correlated with other wholesale, retail and sources prices



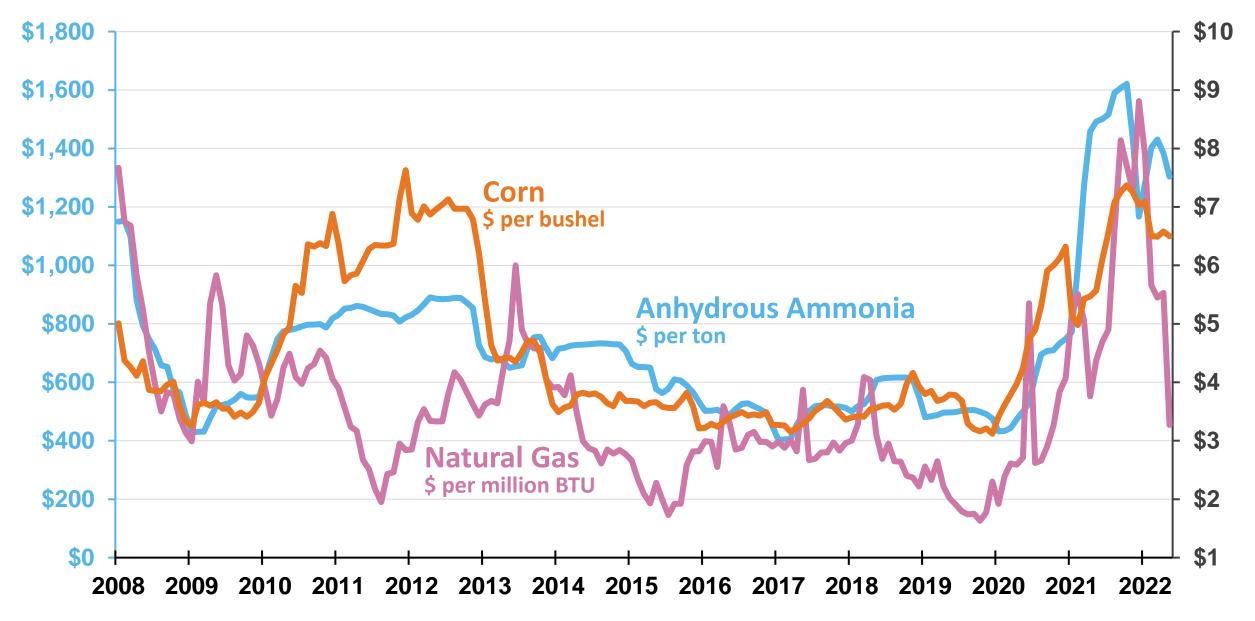


Ammonia, Urea, and Nitrogen Solution Prices Over Time



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Anhydrous Ammonia and Henry Hub Natural Gas Price



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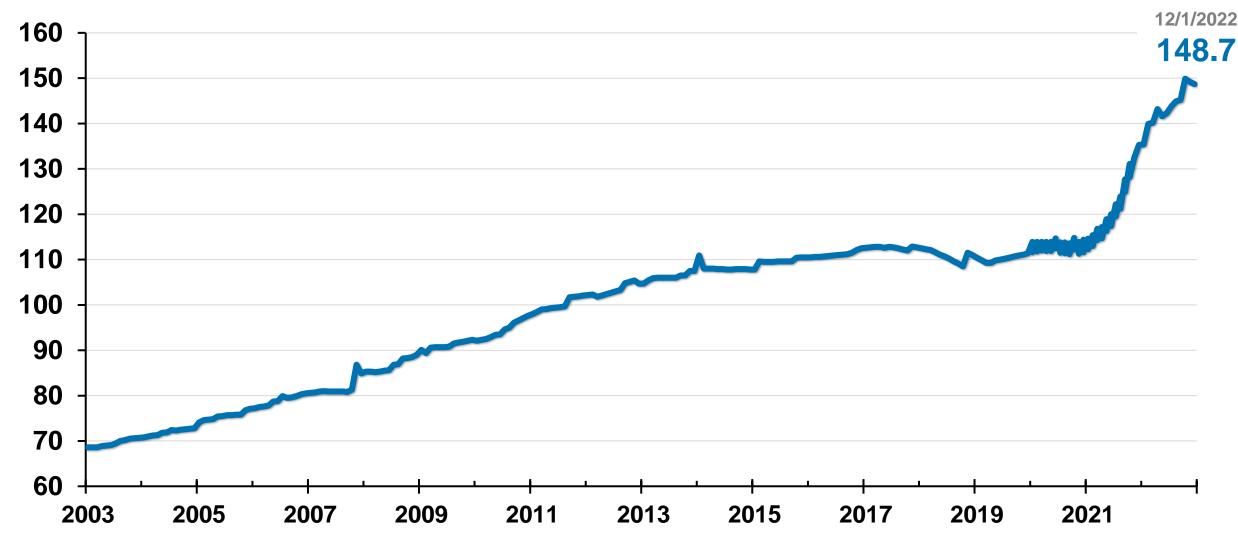
Source: USDA and Energy Information Agency

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Corn Budget Total P for Central Illinois High Pro			d			
	2019	2020	2021	2022	2023	
Machine hire/lease	16	16	16	18	20	
Utilities	5	5	5	6	7	
Machine repair	26	28	32	38	41	
Fuel and oil	17	15	19	29	34	
Light vehicle	1	2	2	2	2	
Mach. depreciation	63	65	69	75	79	
Total Power Costs	\$128	\$131	\$143	\$168	\$183	

2022 and 2023 are Projected

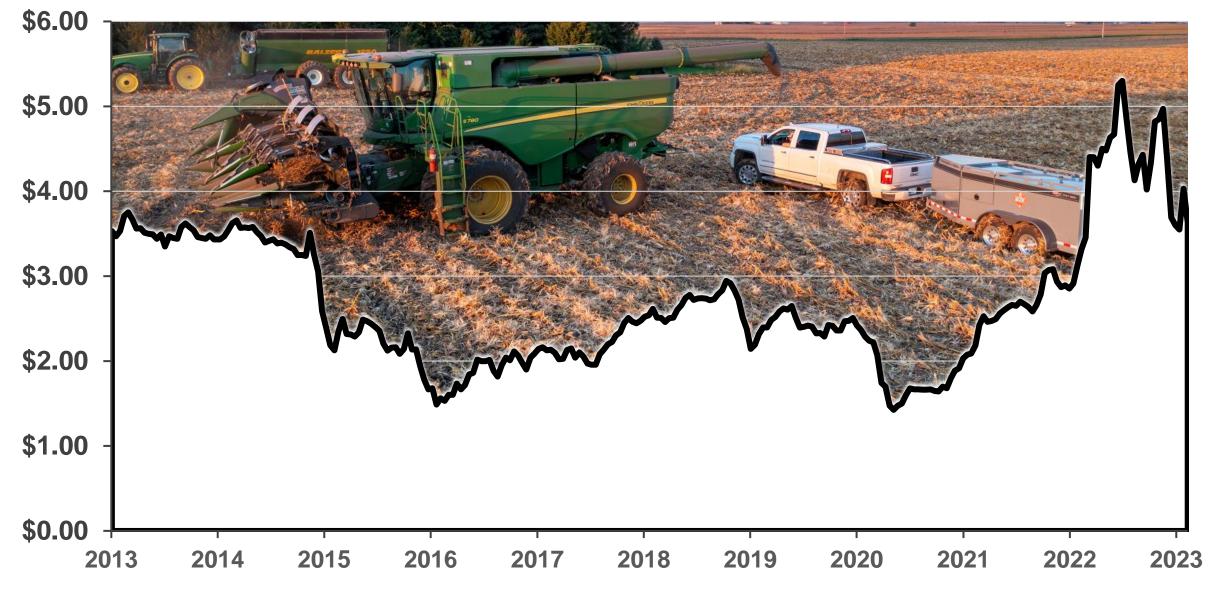
Index of Price Paid for Tractors



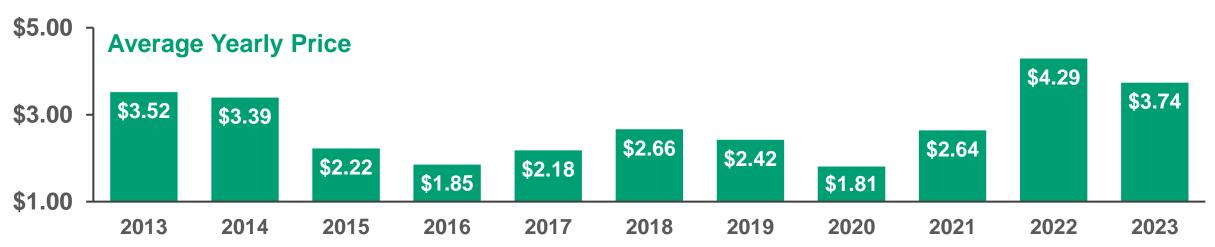
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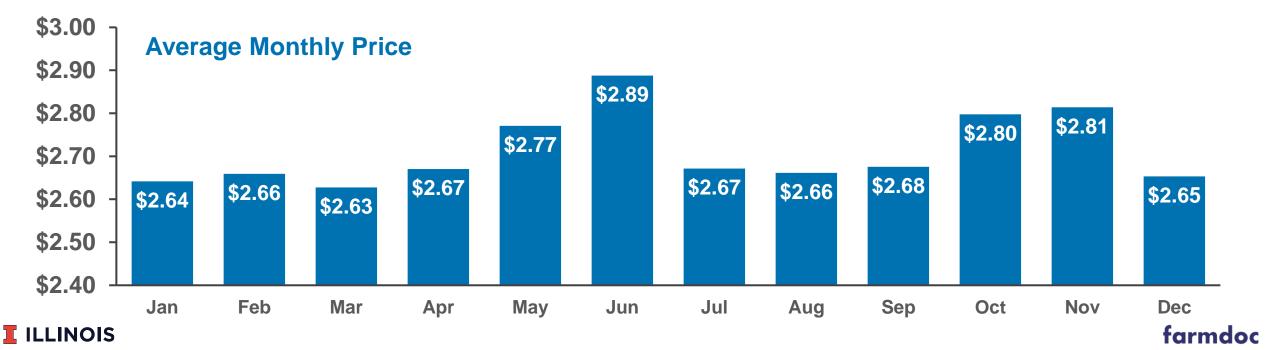
Source: National Agriculture Statistics Service, USDA

Farm Diesel < 1000 gallons in Dollars per Gallon



Farm Diesel < 1000 gallons in Dollars per Gallon as of Feb 9, 2023





Corn Budget Total Overhead Costs for Central Illinois High Productivity Farmland



	2019	2020	2021	2022	2023	
Hired labor	18	20	22	23	25	
Building repair and rent	6	6	6	7	8	
Building depreciation	11	13	12	13	14	\sim
Insurance	9	11	11	12	13	
Misc	9	10	11	12	13	
Interest (non-land)	22	17	14	12	20	\searrow
Total overhead costs	\$75	\$77	\$76	\$79	\$93	

2022 and 2023 are Projected

Corn Budget Overview for Central Illinois High Productivity Farmland

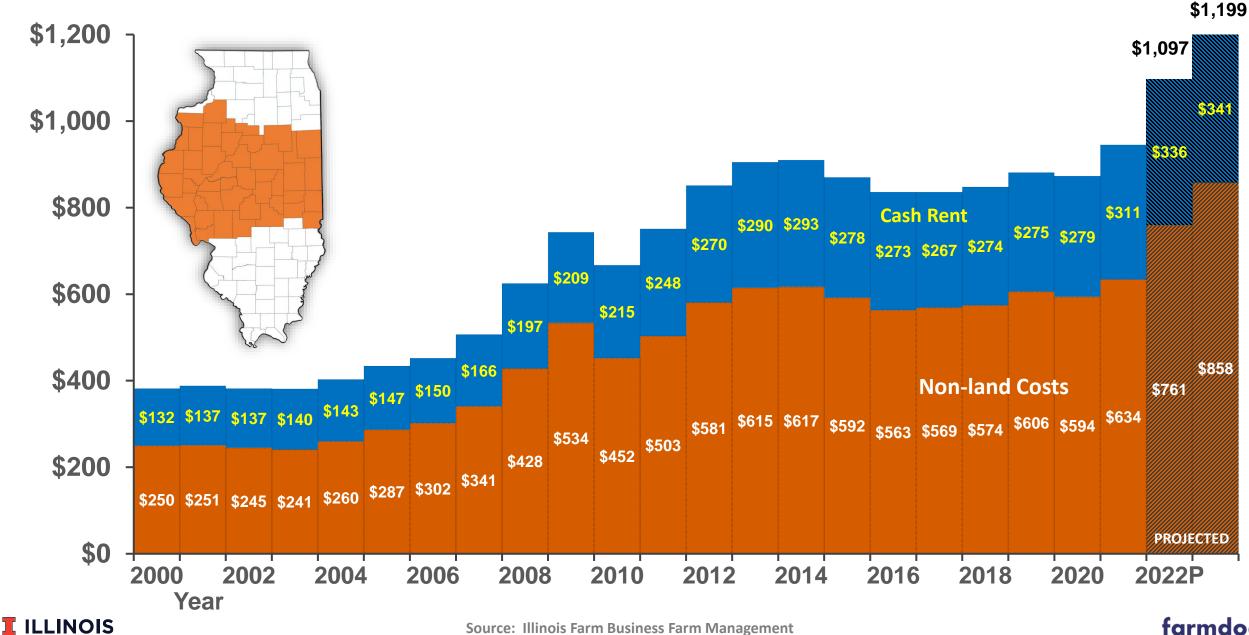
2019	2020	2021	2022	2023	
\$889	\$1,006	\$1,318	\$1,440	\$1,271	
\$403	\$386	\$415	\$514	\$582	
\$128	\$131	\$143	\$168	\$183	
\$75	\$77	\$76	\$79	\$93	
\$606	\$594	\$634	\$761	\$858	
\$283	\$412	\$684	\$679	\$413	\frown
\$275	\$279	\$311	\$336	\$341	
\$8	\$133	\$373	\$343	\$72	
	\$889 \$403 \$128 \$75 \$606 \$283 \$275	\$889 \$1,006 \$403 \$386 \$128 \$131 \$75 \$77 \$606 \$594 \$283 \$412 \$275 \$279	\$889 \$1,006 \$1,318 \$403 \$386 \$415 \$128 \$131 \$143 \$75 \$77 \$76 \$606 \$594 \$634 \$283 \$412 \$684 \$275 \$279 \$311	\$889 \$1,006 \$1,318 \$1,440 \$403 \$386 \$415 \$514 \$128 \$131 \$143 \$168 \$75 \$77 \$76 \$79 \$606 \$594 \$634 \$761 \$283 \$412 \$684 \$679 \$275 \$279 \$311 \$336	\$889\$1,006\$1,318\$1,440\$1,271\$403\$386\$415\$514\$582\$128\$131\$143\$168\$183\$75\$77\$76\$79\$93\$606\$594\$634\$761\$858\$283\$412\$684\$679\$413\$275\$279\$311\$336\$341

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2022 and 2023 are Projected



Total Costs of Producing Corn for Central Illinois in \$ per acre



Source: Illinois Farm Business Farm Management

Soybean Budget for Central Illinois High Productivity Farmland





Soybean Budget Revenue for Central Illinois High Productivity Farmland



	2019	2020	2021	2022	2023	
Yield per acre	64	66	72	71	72	
Price per bu	\$9.13	\$10.76	\$13.40	\$14.00	\$13.40	
Crop revenue	\$584	\$710	\$965	\$994	\$965	
ARC/PLC	10	0	0	0	0	
Other gov't payments	94	45	0	0	0	
Crop insurance proceeds	9	4	5	0	0	
Gross revenue	\$697	\$759	\$970	\$994	\$965	

2022 and 2023 are Projected

Soybean Budget Total Direct Costs for Central Illinois High Productivity Farmland



	2019	2020	2021	2022	2023	
Fertilizers	45	42	45	85	95	
Pesticides	46	47	54	68	74	
Seed	73	71	72	78	84	
Drying	0	0	0	2	4	
Storage	8	5	5	5	5	
Crop insurance	15	14	16	26	26	
Total direct costs	\$187	\$179	\$192	\$264	\$288	

2022 and 2023 are Projected

Soybean Budget Total Power Costs for Central Illinois High Productivity Farmland

	2019	2020	2021	2022	2023	No.
Machine hire/lease	14	14	14	16	18	
Utilities	5	5	5	6	7	
Machine repair	23	24	28	34	37	
Fuel and oil	15	13	16	24	26	
Light vehicle	1	1	1	1	1	
Mach. depreciation	55	56	60	66	70	
Total power costs	\$113	\$113	\$124	\$147	\$159	

2022 and 2023 are Projected

Soybean Budget Total Overhead Costs for Central Illinois High Productivity Farmland

1

	2019	2020	2021	2022	2023	S. C.
Hired labor	17	20	20	21	22	
Building repair and rent	5	5	5	6	7	
Building depreciation	10	11	10	11	12	\sim
Insurance	11	11	11	12	13	
Misc	9	10	11	12	13	
Interest (non-land)	20	15	12	10	18	
Total overhead costs	\$72	\$72	\$69	\$72	\$85	



2022 and 2023 are Projected

Soybean Budget Overview for Central Illinois High Productivity Farmland

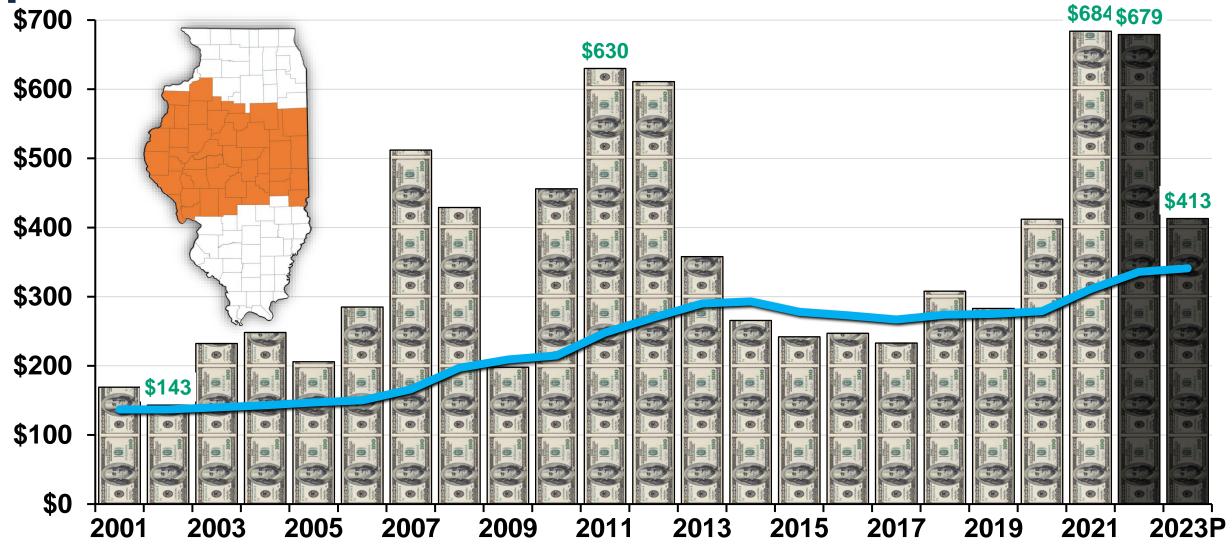


2019	2020	2021	2022	2023	
\$697	\$759	\$970	\$994	\$965	
\$187	\$179	\$192	\$264	\$288	
\$113	\$113	\$124	\$147	\$159	
\$72	\$72	\$69	\$72	\$85	
\$372	\$364	\$385	\$483	\$532	
\$325	\$395	\$585	\$511	\$433	\frown
275	279	311	336	341	
\$50	\$116	\$274	\$175	\$92	\nearrow
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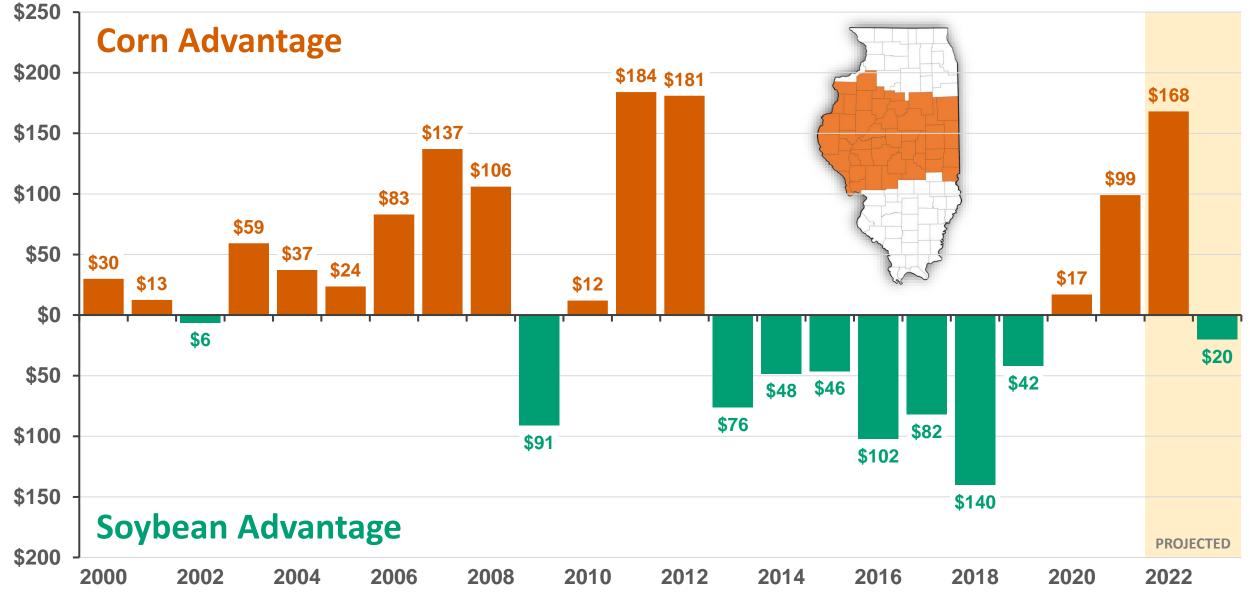


2022 and 2023 are Projected

Operator and Land Return and Cash Rent in \$ per acre Central Illinois



Corn Advantage Over Soybeans, Central Illinois



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2023 Risk Management Decisions • Marketing • ARC or PLC

Crop insurance













SOYBEAN ASSOCIATION

Are you marketing more of the 2023 crop than last year?

○Yes

 \bigcirc No

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Marketing

							Average
			Percent of E	xpected Corn F	Production ¹		Percent
Date [rior to harvest	None	1 and 10%	11 to 25%	25 to 50%	50 to 75%	Over 75%	Hedged ²
January 1	29%	33%	34%	3%	1%	0%	10%
April 1	16%	15%	34%	28%	5%	2%	22%
July 1	9%	2%	14%	38%	33%	4%	41%

¹ Farmer were asked how much of 2018 expected production was forward priced using forward of futures contract.
² Average percent hedged weight responses to arrive at an average percent hedged.

From farmdoc Daily, May 15, 2018

https://farmdocdaily.illinois.edu/2018/05/pre-harvest-hedging-revenue-protection.html

I would be higher That is not a price projection, but a risk management suggestion

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Are you thinking of changing the commodity title choice?

⊖ Yes

 \bigcirc No

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2023 Commodity Title Choices ARC-CO and PLC

have till March 15th to make decision





Commodity Title Choice

- Payments not likely on corn, soybean, or wheat base from PLC or ARC-CO given current prices.
 Don't sweat this detail.
- Lean to ARC-CO for corn and soybeans, PLC for wheat
- Considerations:
 - What type of risk concerns you most?
 - Crop insurance choices/options (use of SCO requires PLC)

The Decision Have until March 15

Farm	Program Crop	Crop Choice				
FSA Farm	Corn	PLC/ARC-CO				
1	Soybeans	PLC/ARC-CO				
FSA Farm	Corn	PLC/ARC-CO				
2	Soybeans	PLC/ARC-CO				



The Decision Have until March 15

Farm	Program Crop	Crop Choice	OR	
FSA Farm	Corn	PLC/ARC-CO	ARC-IC	
1	Soybeans	PLC/ARC-CO		
FSA Farm	Corn	PLC/ARC-CO		
2	Soybeans	PLC/ARC-CO	ARC-IC	





Corn, from Farm Bill What If Tool

Program Sele	ction	PLC minus ARC-CO State = Illinois, County = Champaign, Crop = Corn, Year = 20						ear = 2023					
Price Change			\$ 0.25		ARC-CO Bend	ARC-CO Benchmark Yield = 222.65, Benchmark Price = \$3.98, Guarantee \$762.09							
Yield Change		10 PLC Yield = 179, Effective Reference Price = \$3.70											
-2023													
County		2023 Market Year Average Price											
Yield	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75		
273	68	30	0	0	0	0	0	0	0	0	0		
263	68	30	0	0	0	0	0	0	0	0	0		
253	68	30	0	0	0	0	0	0	0	0	0		
243	68	30	0	0	0	0	0	0	0	0	0		
233	63	30	0	0	0	0	0	0	0	0	0		
223	36	30	0	0	0	0	0	0	0	0	0		
213	8	15	0	0	0	0	0	0	0	0	0		
203	-7	-14	-2	0	0	0	0	0	0	0	0		
193	-7	-44	-34	0	0	0	0	0	0	0	0		
183	-7	-45	-66	-27	0	0	0	0	0	0	0		
173	-7	-45	-75	-61	-24	0	0	0	0	0	0		
	* A positive v	alue indicate	es that PLC wil	l pay more,	a negative val	ue indicates	that ARC-CO	will pay more	•				

farmdoc.illinois.edu/fast-tools/arc-co-plc-model

Soybeans, from Farm Bill What If Tool

Program Selection	on	PL	<u>C minus ARC-CO.</u>	State = Illinois, County = Logan, Crop = Soybeans, Year = 2023							
Price Change		\$	0.50	ARC-CO Benchmark Yield = 71.55, Benchmark Price = \$9.57, Guarantee \$588.87							
Yield Change			7	PLC Yield = 55, Effective Reference Price = \$8.40							
-2023											
County		2023 Market Year Average Price									
Yield	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
107	42	19	0	0	0	0	0	0	0	0	0
100	42	19	0	0	0	0	0	0	0	0	0
93	42	19	0	0	0	0	0	0	0	0	0
86	42	19	0	0	0	0	0	0	0	0	0
79	42	19	0	0	0	0	0	0	0	0	0
72	-2	5	0	0	0	0	0	0	0	0	0
65	-16	-40	-34	-7	0	0	0	0	0	0	0
58	-16	-40	-58	-58	-36	-11	0	0	0	0	0
51	-16	-40	-58	-58	-58	-58	-49	-28	-6	0	0
44	-16	-40	-58	-58	-58	-58	-58	-58	-58	-56	-38
37	-16	-40	-58	-58	-58	-58	-58	-58	-58	-58	-58

farmdoc.illinois.edu/fast-tools/arc-co-plc-model

Are you going to change crop insurance?

 \bigcirc No

○ Lower coverage level

○ Increase coverage level

O Use ECO/SCO

O Have not decided





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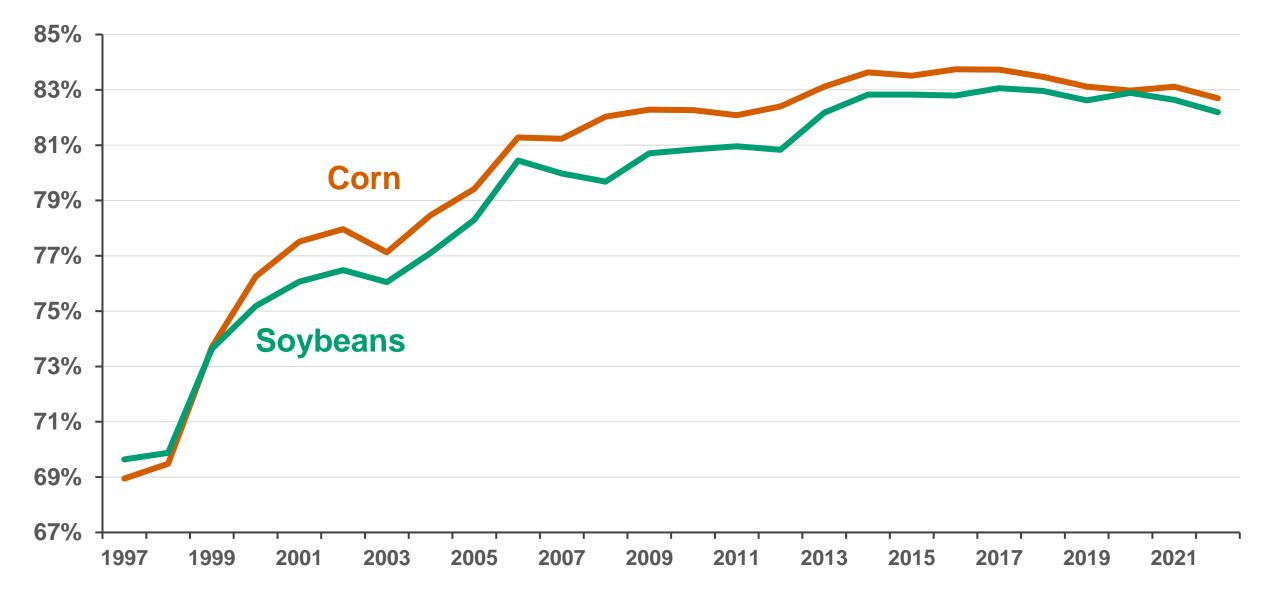
Crop Insurance

Most farmers take Revenue Protection (RP) at "high" coverage levels



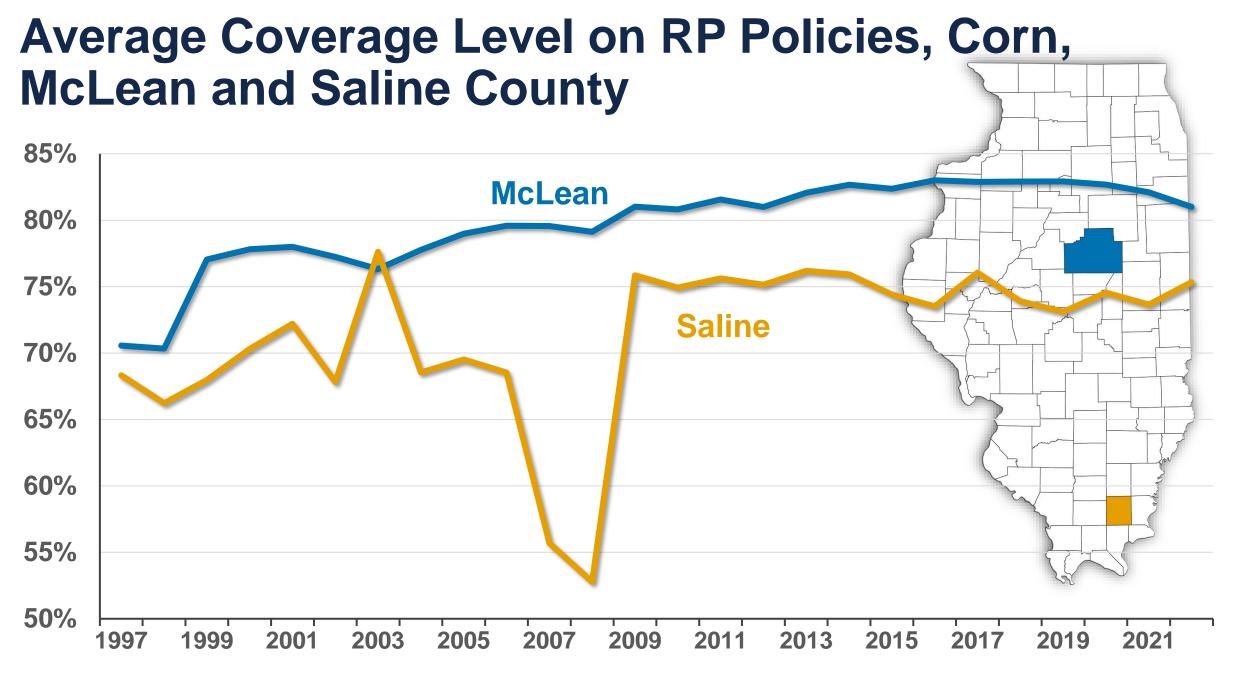


Average Coverage Level on RP Policies, Illinois



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Source: Summary of Business, Risk Management Agency



Source: Summary of Business, Risk Management Agency

Crop Insurance

- Most farmers take Revenue Protection (RP) at "high" coverage levels
- If you are there, continue to do so, maybe with some substitution to SCO and ECO

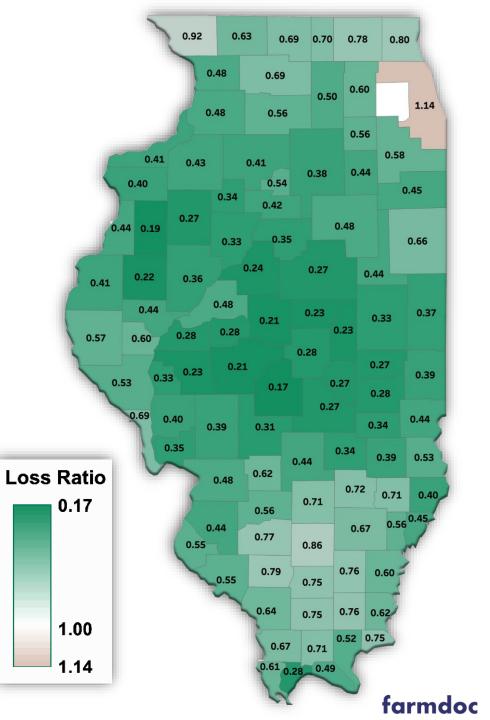




Soybeans have low loss ratios

Some farmers have asked me about backing off soybean insurance

Very reluctant to make that recommendation



2023 and 2024 decisions

2023 Decisions

Pre-harvest market more particularly when buying products

Make a commodity title choice Make a choice

Choose RP at a high coverage level

Summer 2023

In August 2023, Look at harvest time bids for 2024

Summer 2024

2024 Budget, Central Illinois, High-Productivity farmland

	Corn	Soybeans
Non-land costs (2023)	\$858	\$532
Cost Adjustment (?)	-\$100	-\$75
Cash rent	\$350	\$350
Total costs	\$1,108	\$807

Break-evens:

- Corn: \$1,108 / 230 bu. per acre = \$4.81 per bushel
- Soybeans: \$807 / 73 bu. per acre = \$11.05 per bushel

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< \$5.00 corn price

< \$12.00 soybean price

Serious thoughts to adjustments including cash rent

\$5.00 to \$6.00 corn price \$12.00 to \$13.50 soybean price Nervous, but OK

- Over \$6.00 corn price Over \$13.50 soybean price

Have a great harvest season and Xmas, but use variable rents for 2024

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2023 Illinois Farm Economics Summit

Thursday, February 23, 2023: Wrap up with the farmdoc team

Other Webinars



Top Ten Business Strategies 2023

by Bob Rhea and Brad Zwilling of Illinois FBFM February 21 @ 11:00 am - 12:00 pm CST

As 2023 gets underway, several items deserve increased attention for farm businesses. FBFM presents a Top 10 list of forward looking strategies to consider for a successful year. Changes in cost, income, inflation, tax laws, and estate planning are some key topics discussed. Webinar will be presented by Bob Rhea and Brad Zwilling of Illinois...



Crop Risk Management for 2023 by Gary Schnitkey March 2 @ 9:00 am - 10:00 am CST

Many of the risk management decisions impacting 2023 crop production will be made soon. At the end of February, projected prices for crop insurance will be known. We will cover decision related choices related to corn or soybeans, marketing, leasing, commodity title alternatives, & crop insurance alternatives

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Thank You for joining us!

Please submit your questions



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