

Managing Old and New Crop Price Risk

November 15, 2023

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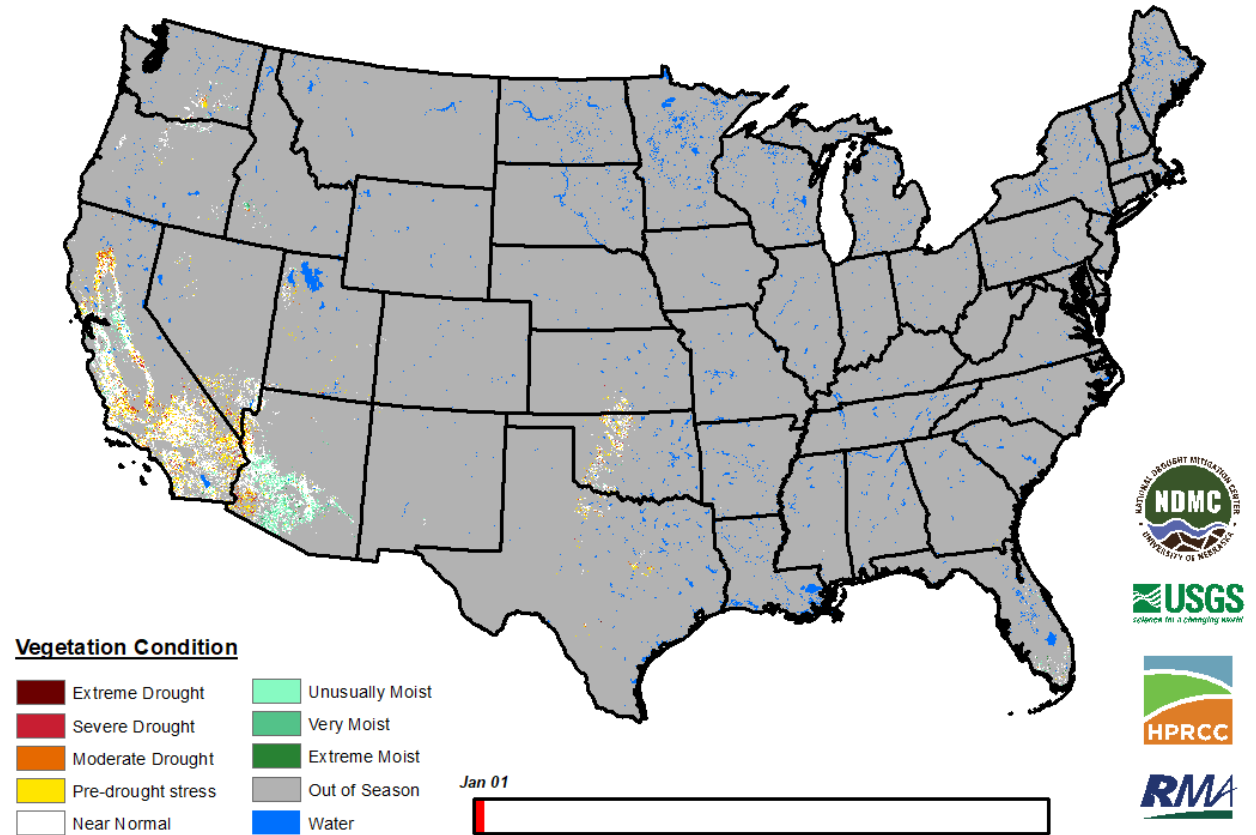
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Overview

- Supply and demand
- Prices
- Stored crop strategies
 - Interest rates and the cost to carry grain in storage
- Bridging the price risk gap

2023 Vegetation Drought Response Index (VegDRI)



Corn

	2022/23 Est.	2023/24 Projected November	Change 2023/24- 2022/23
<u>Planted and Harvested Acres & Yield</u>			
Planted (Million)	88.6	94.9	6.3
Harvested (Million)	79.1	87.1	8.0
U.S. Avg. Yield (Bu/Acre)	173.4	174.9	1.5
<u>Supply (Million Bushels)</u>			
Beg. Stocks	1,377	1,361	-16
Production	13,715	15,234	1,519
Imports	39	25	-14
Total Supply	15,130	16,621	1,491
<u>Use & Ending Stocks (Million Bushels)</u>			
Feed and Residual	5,549	5,650	101
Ethanol	5,176	5,325	149
Food, Seed & Industrial	1,382	1,415	33
Exports	1,661	2,075	414
Total Use	13,769	14,465	696
U.S. Ending Stocks	1,361	2,156	795
Foreign Stocks	10,418	10,245	-173
<u>Price and Stocks to Use Ratio</u>			
U.S. Avg. Season Price (\$/Bu)	\$6.54	\$4.85	-\$1.69
U.S. Stocks/Use	9.88%	14.90%	5.02%

- Tennessee average yield projected at 177 bu/acre (tied 2019 record)
- Brazil second crop corn
- Bounce back from drought for Argentina
- Ukraine- Russia market access
- Global demand
- USD and exchange rates

Soybean

	2022/23 Est.	2023/24 Projected November	Change 2023/24- 2022/23
<u>Planted and Harvested Acres & Yield</u>			
Planted (Million)	87.5	83.6	-3.9
Harvested (Million)	86.2	82.8	-3.4
U.S. Avg. Yield (Bu/Acre)	49.6	49.9	0.3
<u>Supply (Million Bushels)</u>			
Beg. Stocks	274	268	-6
Production	4,270	4,129	-141
Imports	25	30	5
Total Supply	4,569	4,428	-141
<u>Use & Ending Stocks (Million Bushels)</u>			
Crushing	2,212	2,300	88
Exports	1,992	1,755	-237
Seed and Residual	97	127	30
Total Use	4,301	4,182	-119
U.S. Ending Stocks	268	245	-23
Foreign Stocks	3,418	3,962	544
<u>Price and Stocks to Use Ratio</u>			
U.S. Average Season Price (\$/Bu)	\$14.20	\$12.90	-\$1.30
U.S. Stocks/Use	6.23%	5.86%	0%

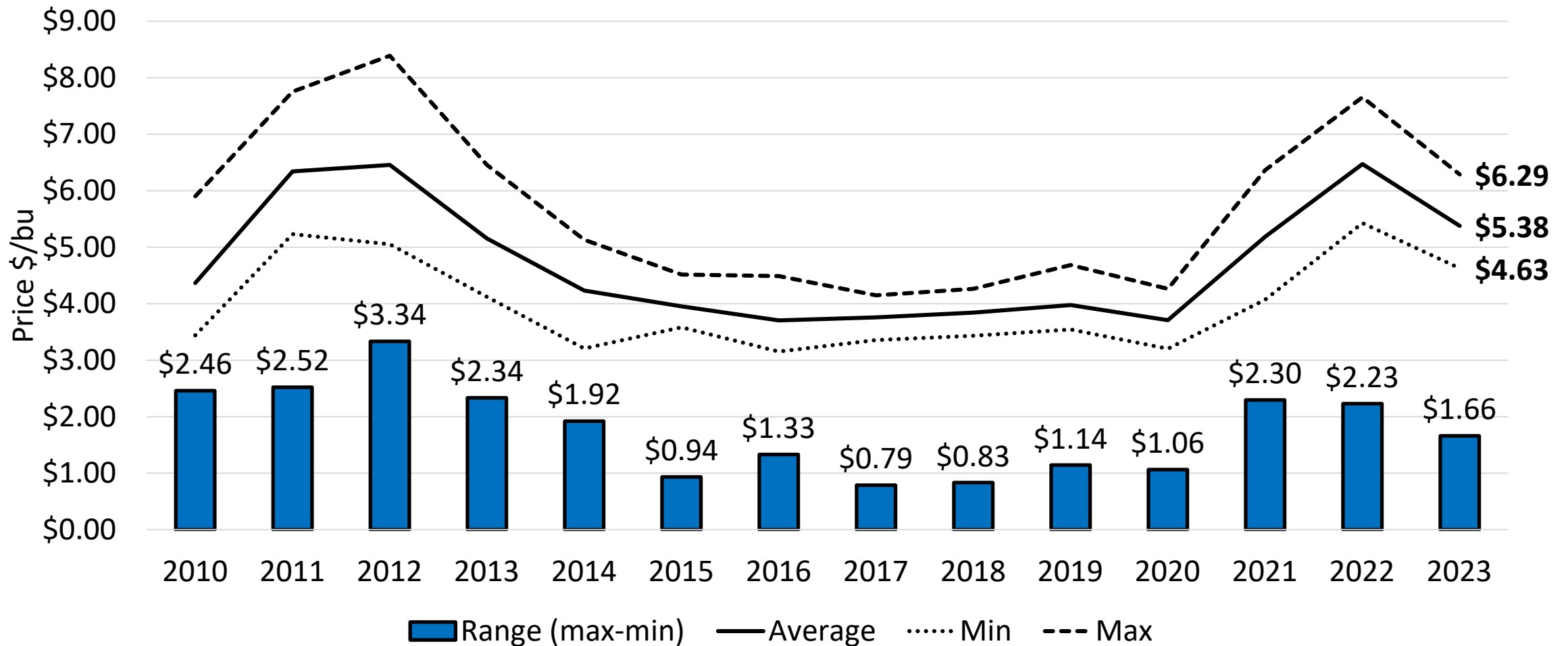
- Tennessee average yield projected at 54 bu/acre (record)
- Brazil and Argentina crop progress
- Tight domestic stocks expanding global stocks
- Loss of US export share
- China demand
- Domestic crush and Bio-fuels

Cotton

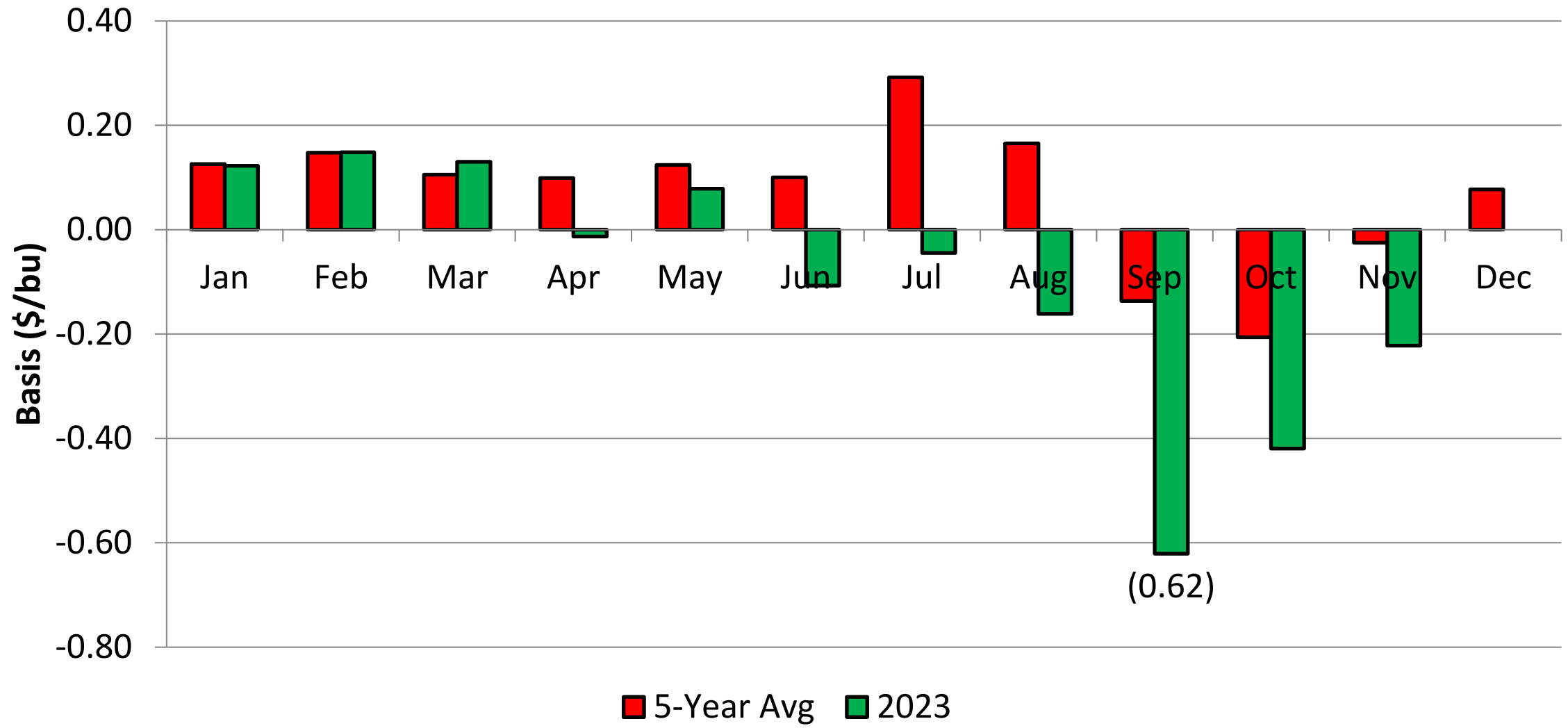
	2022/23 Est.	2023/24 Projected November	Change 2023/24- 2022/23
<u>Planted and Harvested Acres & Yield</u>			
Planted (Million)	13.76	10.23	-3.53
Harvested (Million)	7.31	8.02	0.71
U.S. Average Yield (lb/acre)	950	783	-167
<u>Supply (Million 480 Pound Bales)</u>			
Beg. Stocks	4.05	4.25	0.2
Production	14.47	13.09	-1.38
Imports	0	0.01	0.01
Total Supply	18.52	17.35	-1.17
<u>Use and Stocks (Million 480 Pound Bales)</u>			
Domestic	2.05	2.05	0
Exports	12.77	12.2	-0.57
Total Use	14.82	14.25	-0.57
U.S. Ending Stocks	4.25	3.2	-1.05
Foreign Stocks	78.79	78.3	-0.49
Chinese Stocks	37.4	37.3	-0.1
<u>Price and Stocks to Use Ratio</u>			
U.S. Avg. Season Price (\$/lb)	\$0.848	\$0.77	-\$0.08
U.S. Stocks/Use	29%	22%	-6.22%
Chinese Stocks/Use	100%	99%	-0.27%

- Tennessee average yield projected at 1,182 lb/acre (record)
- Export demand
- Global economic uncertainty
- Forecasted consumer spending

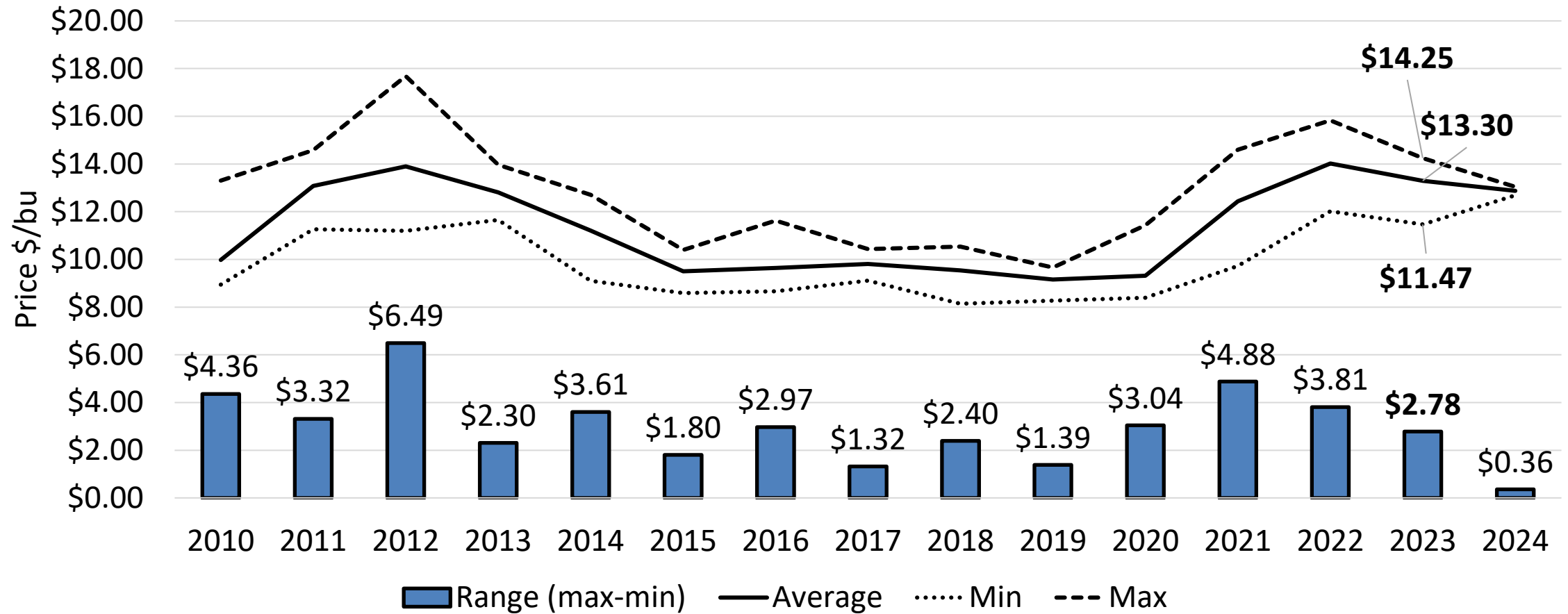
December Corn Futures Contract, Dec 1 to Expiration 2010-2023



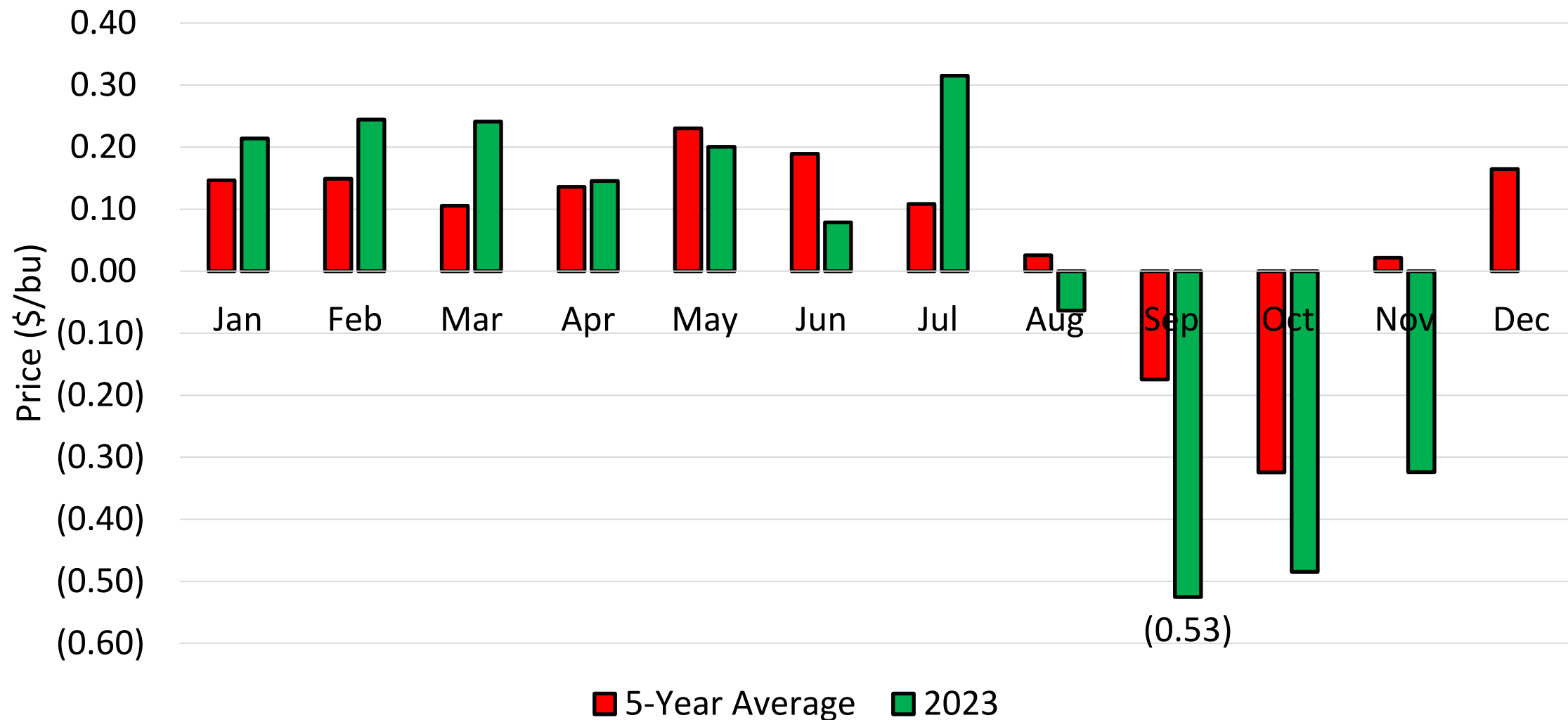
Tenness Average Monthly Corn Basis (Elevators and Barge Points), 5-Year Average and 2023



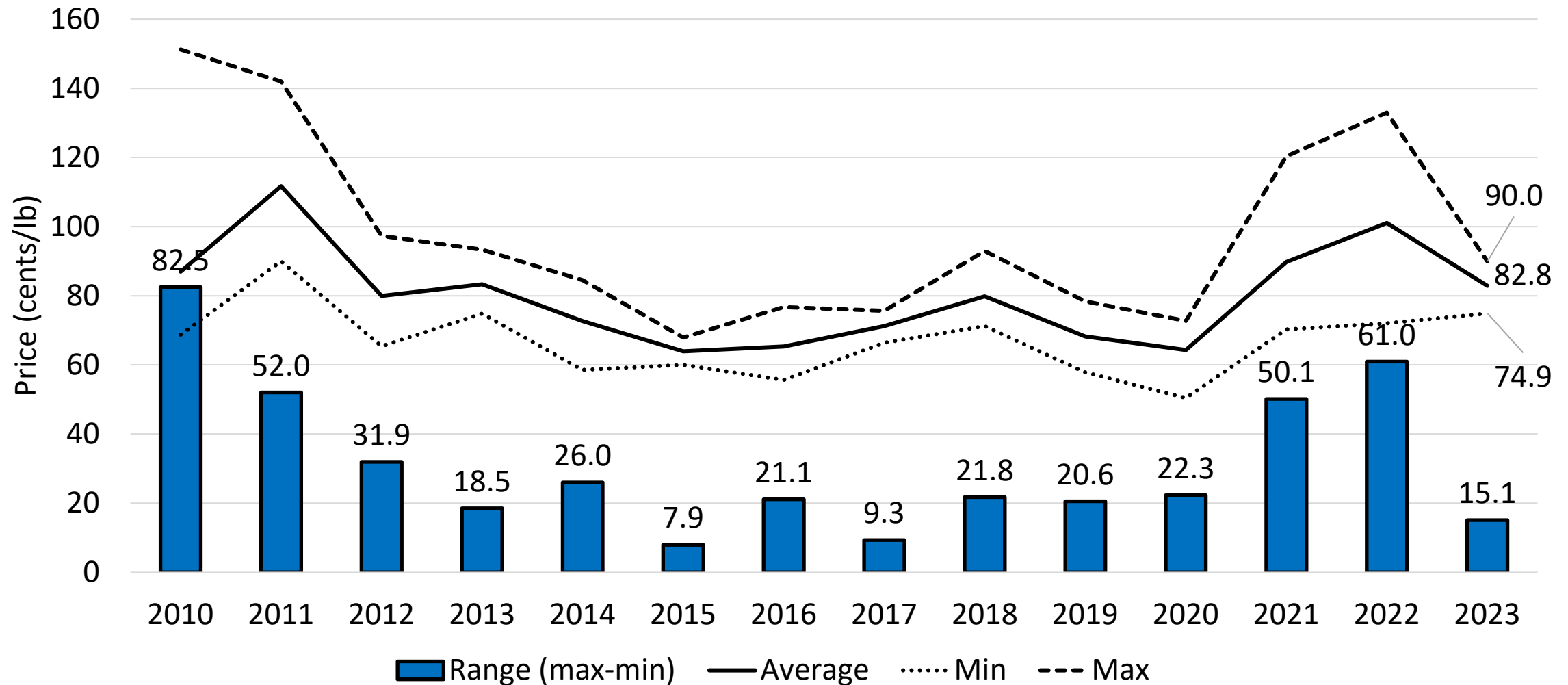
November Soybean Futures Contract, Nov 1 to Expiration, 2010-2024*



Memphis Average Monthly Soybean Basis (Elevators and Barge Points), 5-Year Average, 2022 and 2023



December Cotton Futures Contract, Dec 1 to Expiration 2010-2023



Profitability

	Cotton	Soybeans	Corn	Wheat/Soybeans
Yield - Crop Production Report (Tennessee)	1,181	54	177	80 /50
Harvest Price (as of 11/9/2023)	\$0.74	\$13.38	\$4.57	\$5.39/\$13.38
Revenue	\$874	\$723	\$809	\$1,033
Variable Expenses	\$590	\$340	\$595	\$660
Returns Over Variable	\$284	\$383	\$214	\$373
Land Costs (Cash Rent - NASS State Average)	\$113	\$113	\$113	\$113
Returns Over Variable and Land Costs	\$171	\$270	\$101	\$260
Fixed Costs (Capital Recovery and Management Labor)	\$195	\$130	\$145	\$245
Returns Over Specified Costs	(\$24)	\$140	(\$44)	\$15
Breakeven Price at Estimated Yield and Specified Cost	\$0.76	\$10.80	\$4.82	\$6.36/\$10.18

Corn – When did you buy your fertilizer?

Cotton – Did you take advantage of high prices?

Soybean – Did you avoid the Mississippi River basis lows?

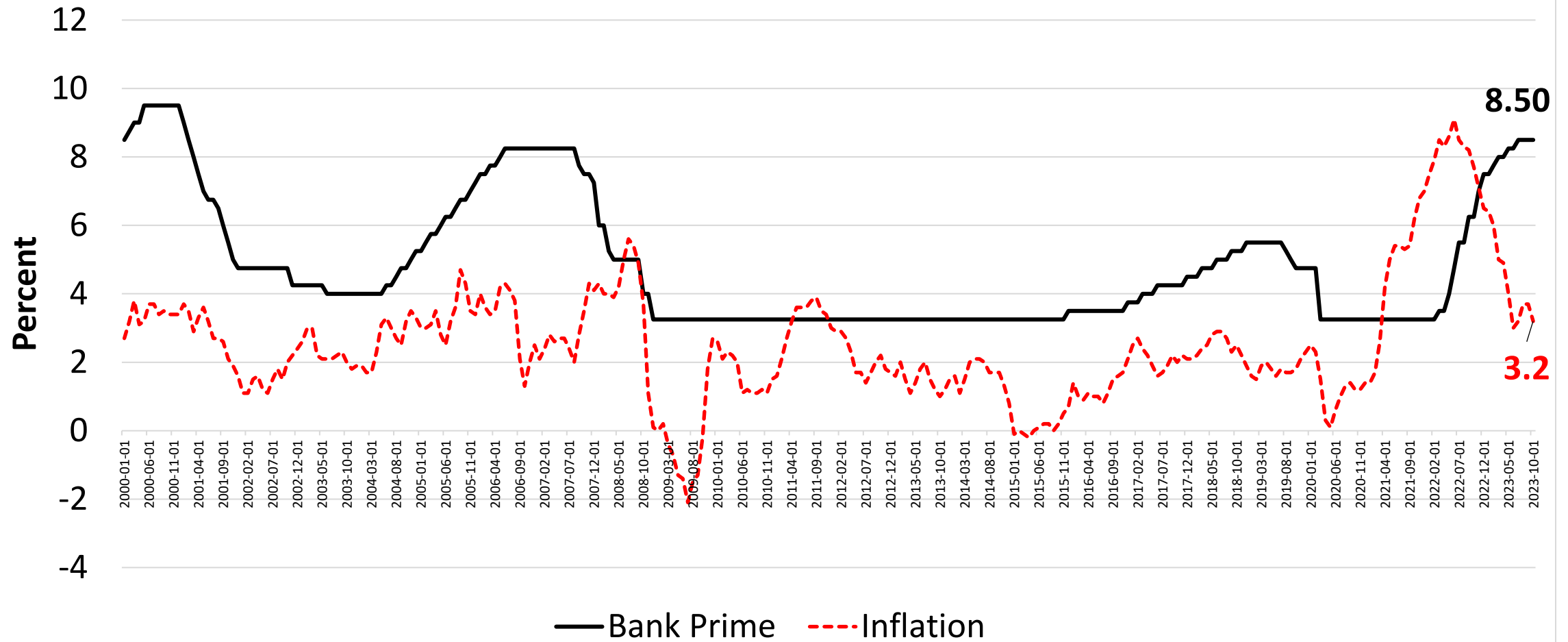
Current Futures Price Offerings

Contract	Last
+ ZCY00 (Cash)	471-2s
+ ZCZ23 (Dec '23)	478-2s
+ ZCH24 (Mar '24)	494-2s
+ ZCK24 (May '24)	503-6s
+ ZCN24 (Jul '24)	512-0s
+ ZCU24 (Sep '24)	512-4s
+ ZCZ24 (Dec '24)	518-0s
+ ZCH25 (Mar '25)	528-4s
+ ZCK25 (May '25)	533-0s
+ ZCN25 (Jul '25)	532-2s
+ ZCU25 (Sep '25)	514-2s
+ ZCZ25 (Dec '25)	510-4s

Contract	Last
+ ZSY00 (Cash)	1338-0s
+ ZSX23 (Nov '23)	1368-6s
+ ZSF24 (Jan '24)	1389-6s
+ ZSH24 (Mar '24)	1402-4s
+ ZSK24 (May '24)	1412-4s
+ ZSN24 (Jul '24)	1414-4s
+ ZSQ24 (Aug '24)	1388-0s
+ ZSU24 (Sep '24)	1333-4s
+ ZSX24 (Nov '24)	1311-4s
+ ZSF25 (Jan '25)	1317-0s
+ ZSH25 (Mar '25)	1307-6s
+ ZSK25 (May '25)	1305-2s
+ ZSN25 (Jul '25)	1308-0s
+ ZSQ25 (Aug '25)	1298-2s
+ ZSU25 (Sep '25)	1268-4s
+ ZSX25 (Nov '25)	1258-6s

Contract	Last
+ CTY00 (Cash)	74.23s
+ CTZ23 (Dec '23)	78.68s
+ CTH24 (Mar '24)	81.15s
+ CTK24 (May '24)	81.88s
+ CTN24 (Jul '24)	82.46s
+ CTV24 (Oct '24)	79.59s
+ CTZ24 (Dec '24)	78.24s
+ CTH25 (Mar '25)	78.79s
+ CTK25 (May '25)	78.89s
+ CTN25 (Jul '25)	78.99s
+ CTV25 (Oct '25)	77.89s
+ CTZ25 (Dec '25)	77.19s

Inflation and Interest Rates, 2000-2023 (Oct)

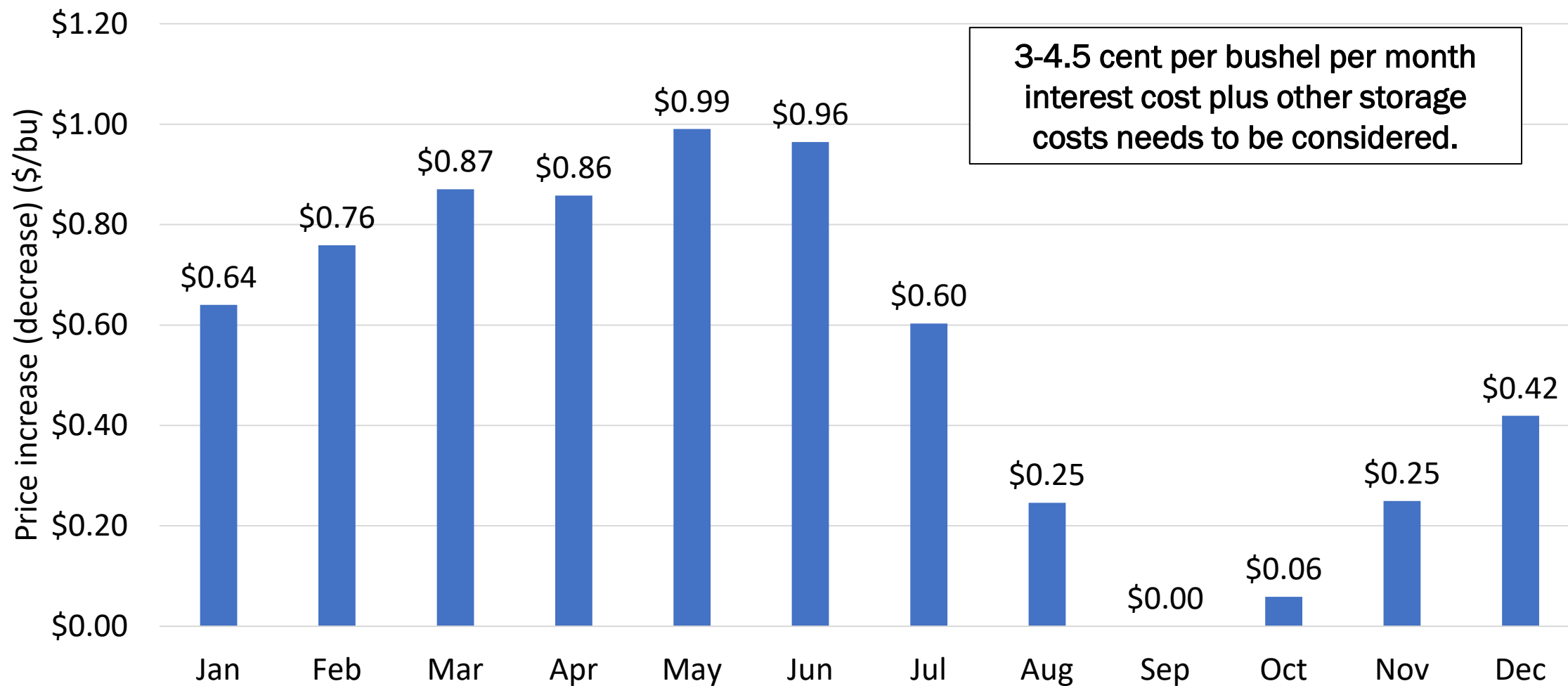


Corn – Interest Cost (\$/bu) @ 8.5%

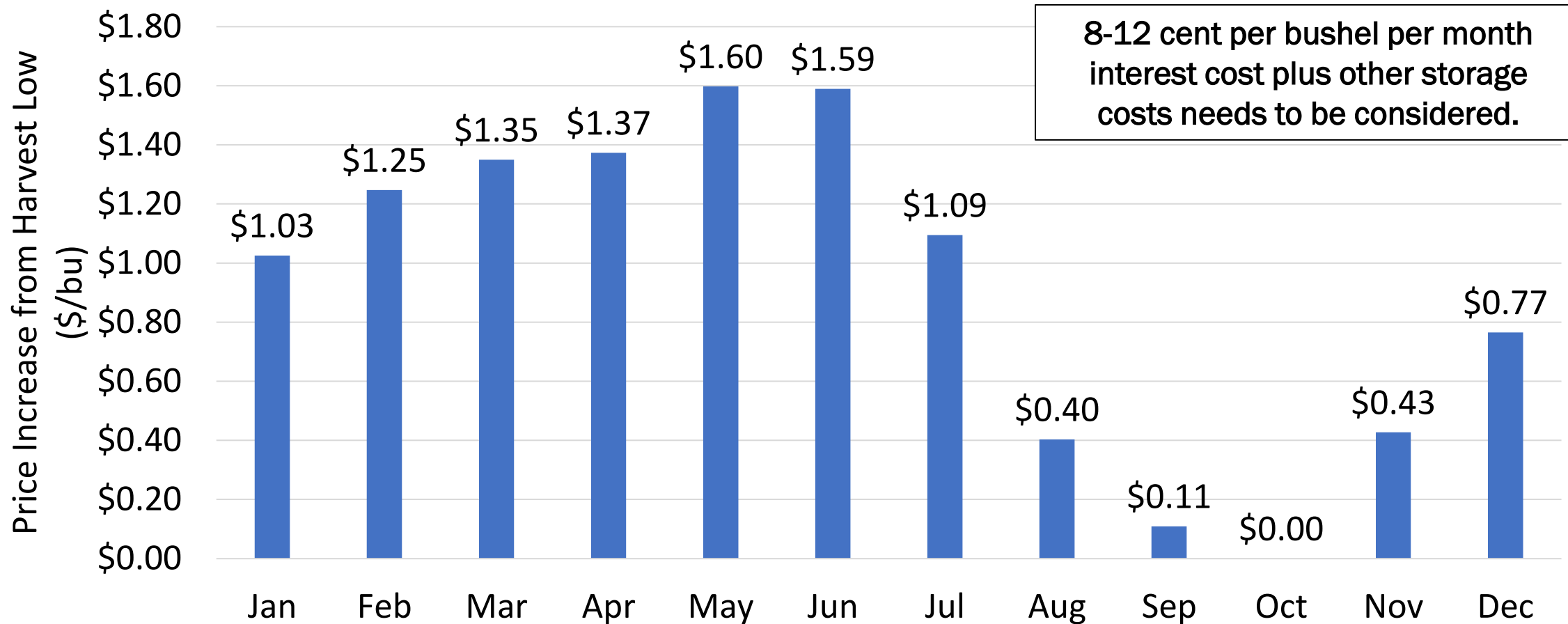
	<u>Months</u>				
<u>Corn Price</u>	1	2	3	4	5
\$ 4.00	\$0.03	\$0.06	\$0.09	\$0.11	\$0.14
\$ 4.25	\$0.03	\$0.06	\$0.09	\$0.12	\$0.15
\$ 4.50	\$0.03	\$0.06	\$0.10	\$0.13	\$0.16
\$ 4.75	\$0.03	\$0.07	\$0.10	\$0.13	\$0.17
\$ 5.00	\$0.04	\$0.07	\$0.11	\$0.14	\$0.18
\$ 5.25	\$0.04	\$0.07	\$0.11	\$0.15	\$0.19
\$ 5.50	\$0.04	\$0.08	\$0.12	\$0.16	\$0.19
\$ 5.75	\$0.04	\$0.08	\$0.12	\$0.16	\$0.20
\$ 6.00	\$0.04	\$0.09	\$0.13	\$0.17	\$0.21
\$ 6.25	\$0.04	\$0.09	\$0.13	\$0.18	\$0.22
\$ 6.50	\$0.05	\$0.09	\$0.14	\$0.18	\$0.23
\$ 6.75	\$0.05	\$0.10	\$0.14	\$0.19	\$0.24
\$ 7.00	\$0.05	\$0.10	\$0.15	\$0.20	\$0.25

* Does not include other storage costs (~ 10 – 20 cents)

10-Year Average Tennessee Corn Price Improvement from September by Month at Elevators and Barge Points



10-Year Average Tennessee Soybean Price Improvement from September by Month at Elevators and Barge Points





Sell Futures

- Cash price for corn of \$5.25
 - \$5.03 futures price (96% of price risk)
 - \$0.22 basis (4% of price risk)
- Sell a \$5.03 May futures contract
 - Locks in a futures price for crop held in storage
 - If basis improves = higher cash price
 - If basis declines = lower cash price



Futures Market Re-ownership (Option Spread Example)

- March Corn (current price \$4.94):
 - Buy a \$5.20 March call option for 10 cents,
 - Sell a \$5.50 March call option for 5 cents.
 - Net premium cost is 5 cents.
 - If the March contract is below \$5.20 you will lose 5 cents
 - If the March contract is \$5.20 to \$5.25 you will lose 0 to 5 cents
 - If the March contract is between \$5.25 and \$5.50 you will make 0 to 25 cents
 - If the March contract is above \$5.50 you will make 25 cents.
- No basis.

Example: Bridging the price risk gap until crop insurance prices are determined – put option

- On November 14, a \$5.20 December 2024 Put Option cost \$0.44.
- After crop insurance prices are determined:
 - Out-of-the money: exit options position recoup premium.
 - In-the-money: maintain the position as price protection.

Take Home Message

- Know your cost of production and breakeven prices for projected yields.
- Identify price risk and seek mitigating strategies.
- Evaluate risk management strategies available.
- Make a decision and implement.



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THANK YOU