

# Farm Management Issues 2024

2023 Row Crop Short Course  
December 6, 2023

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AGRICULTURAL ECONOMICS

# Outline

- Mississippi Acres and Land Values
- Cost of Production Estimates
- Net Returns Comparison
- Interest Rates





# Mississippi Acreage

Table 1. Change in Crop Acreage from 2022 to 2023

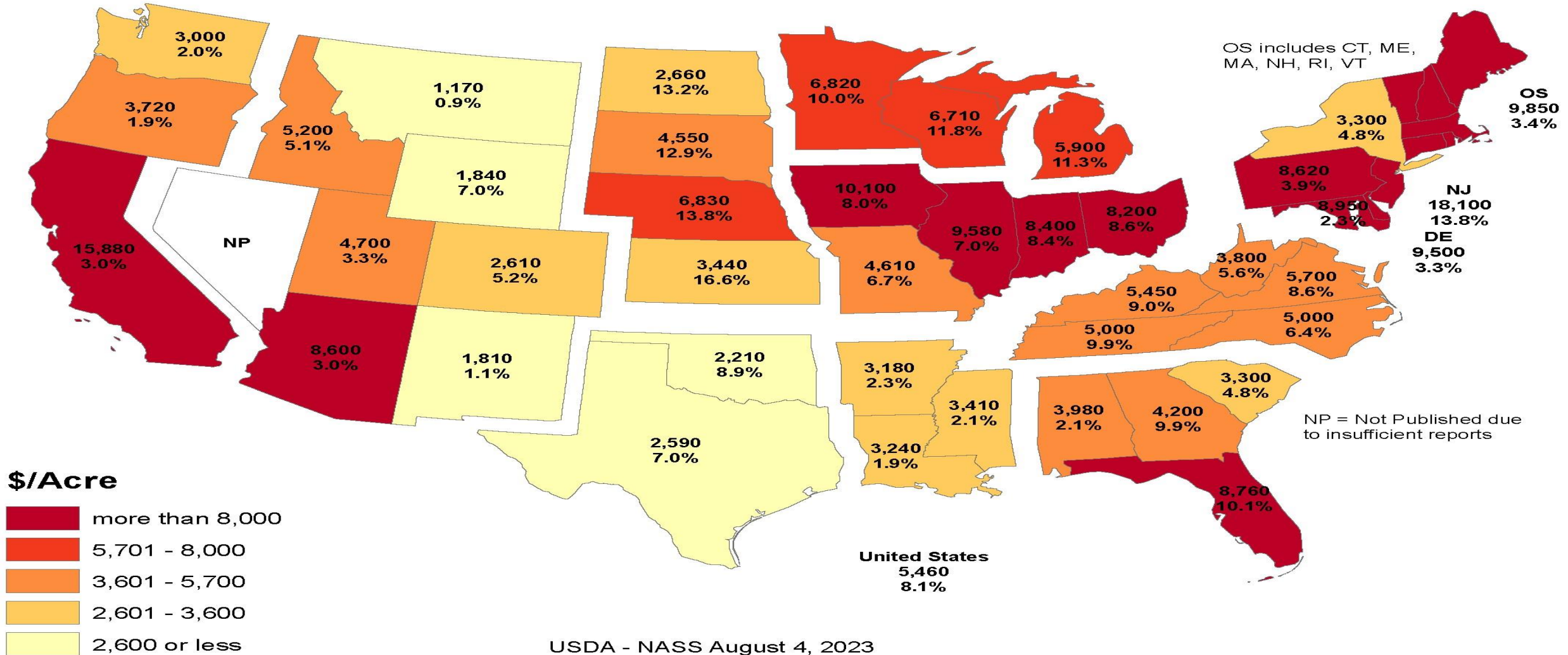
Crop	2022 Acres	2023 Acres	Change
Corn	570,293	781,032	210,739
Upland Cotton	526,137	394,181	-131,956
Long Grain Rice	84,600	119,588	34,988
Soybeans	2,288,616	2,156,439	-132,177
Wheat	79,092	102,412	23,320



# Land Values

## 2023 Cropland Value by State

Dollars per Acre and Percent Change from 2022





# Mississippi Land Values

Land Values	All cropland	Irrigated cropland	Non-irrigated cropland	Pastureland
2023	3,410	4,010	3,070	2,770
2022	3,340	3,900	3,020	2,700

- Since 2013, All Cropland in MS has increased by 38% (\$940/ac)
- Irrigated Cropland increased the most at 45% (\$1,250/ac)



# MSU Cost of Production Estimates – 2023 Crop Year

- MSU produces yearly Enterprise and Planning budgets using MSU Budget Generator
- Survey Mississippi companies to determine costs of herbicide, pesticide, fertilizer, equipment, etc
- Multidisciplinary team develops budgets based on common production practices/recommendations



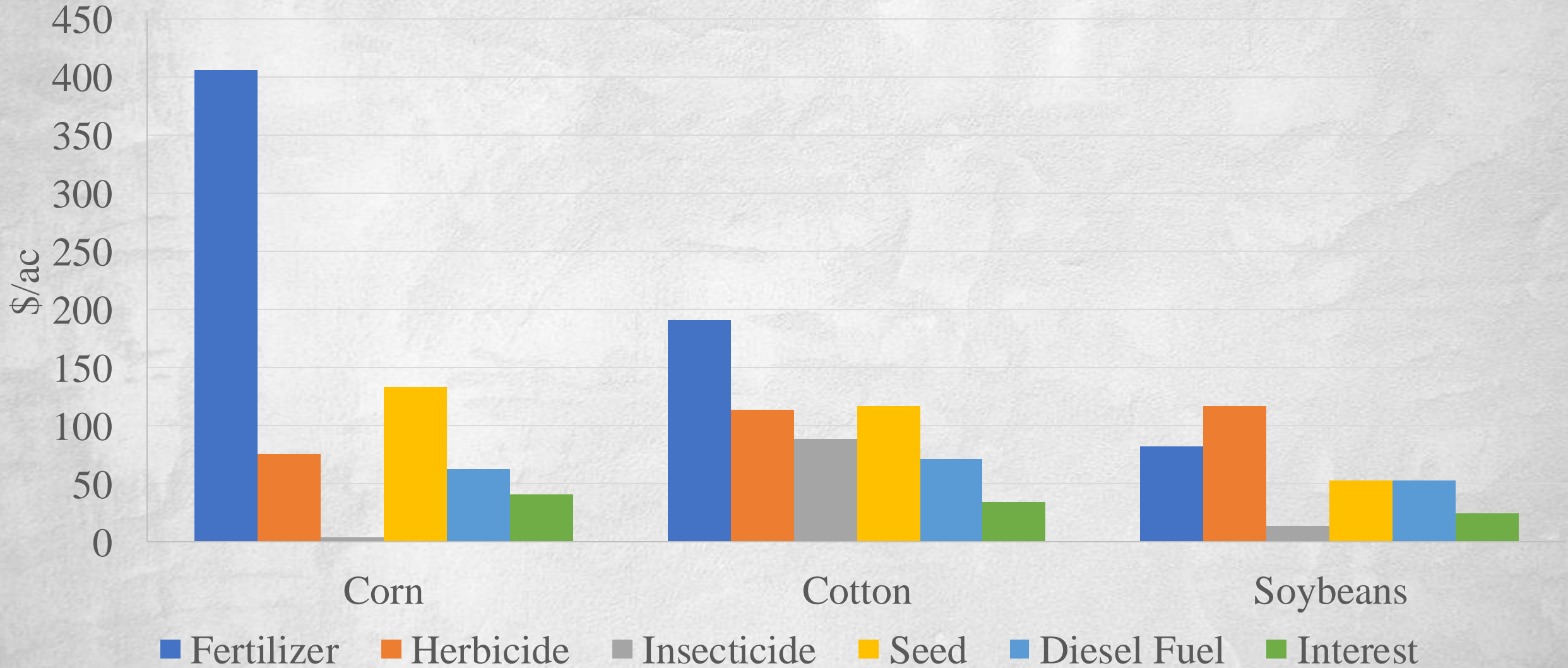


# MSU Cost of Production Estimates Changes from Previous Year

- Input costs were up significantly from previous year
  - Partially due to when surveys are done
- Costs will vary for each producer
- Available at [agecon.msstate.edu](http://agecon.msstate.edu)

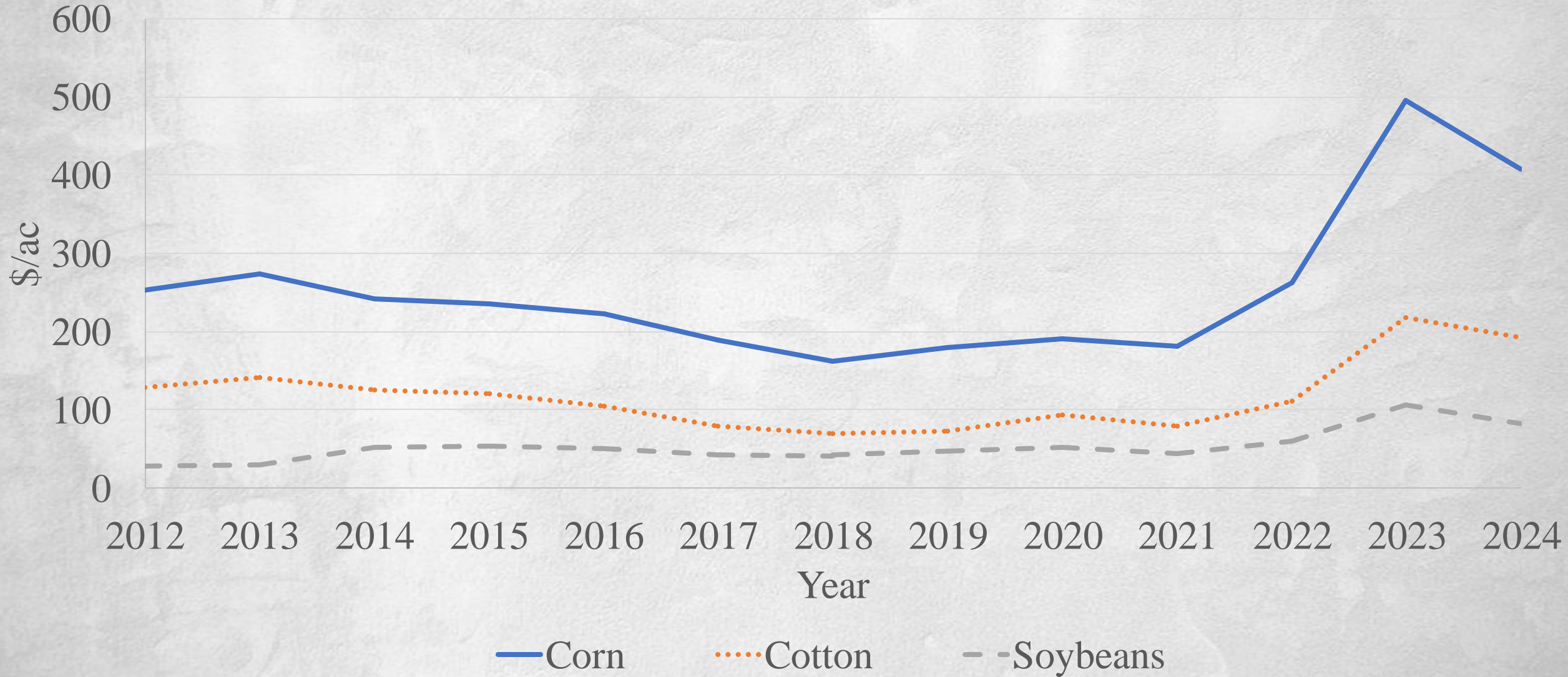


# Input Costs 2024

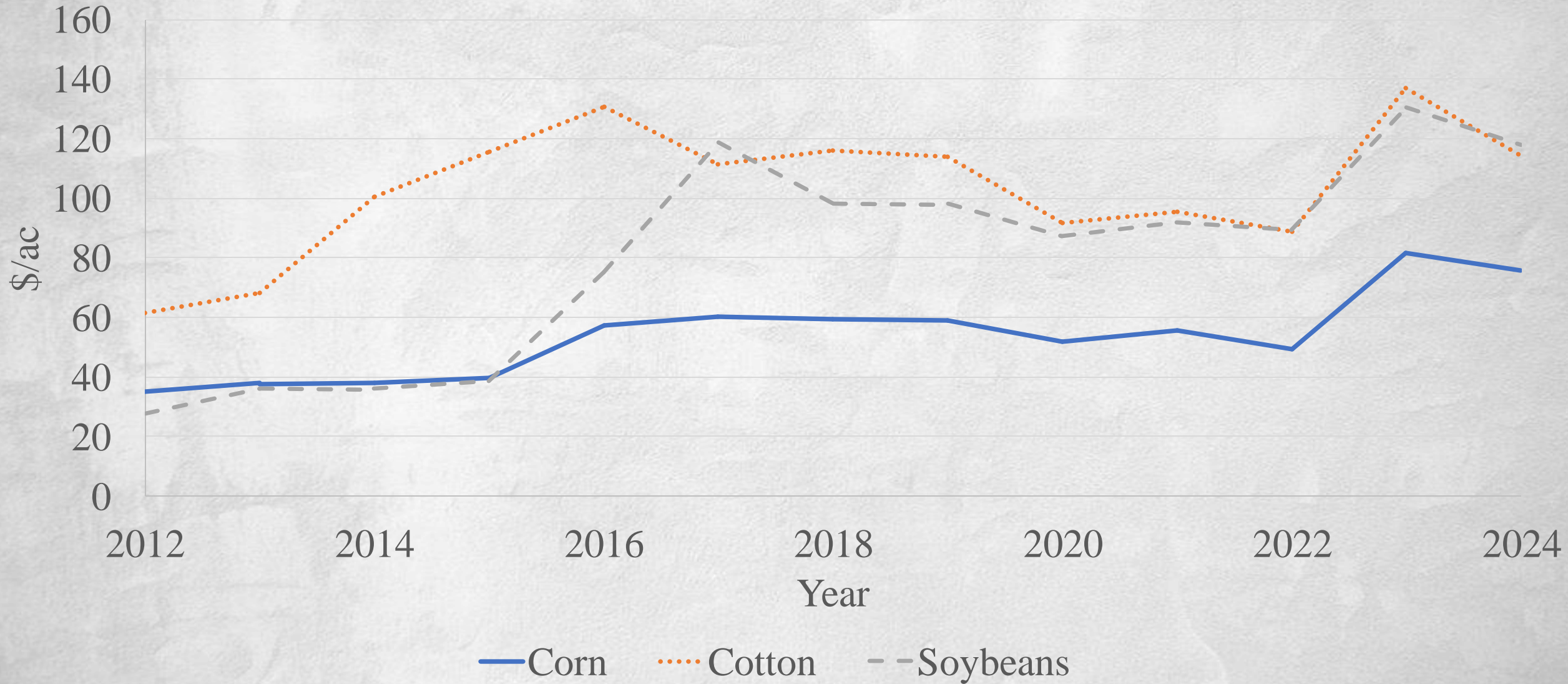




# Fertilizer Costs

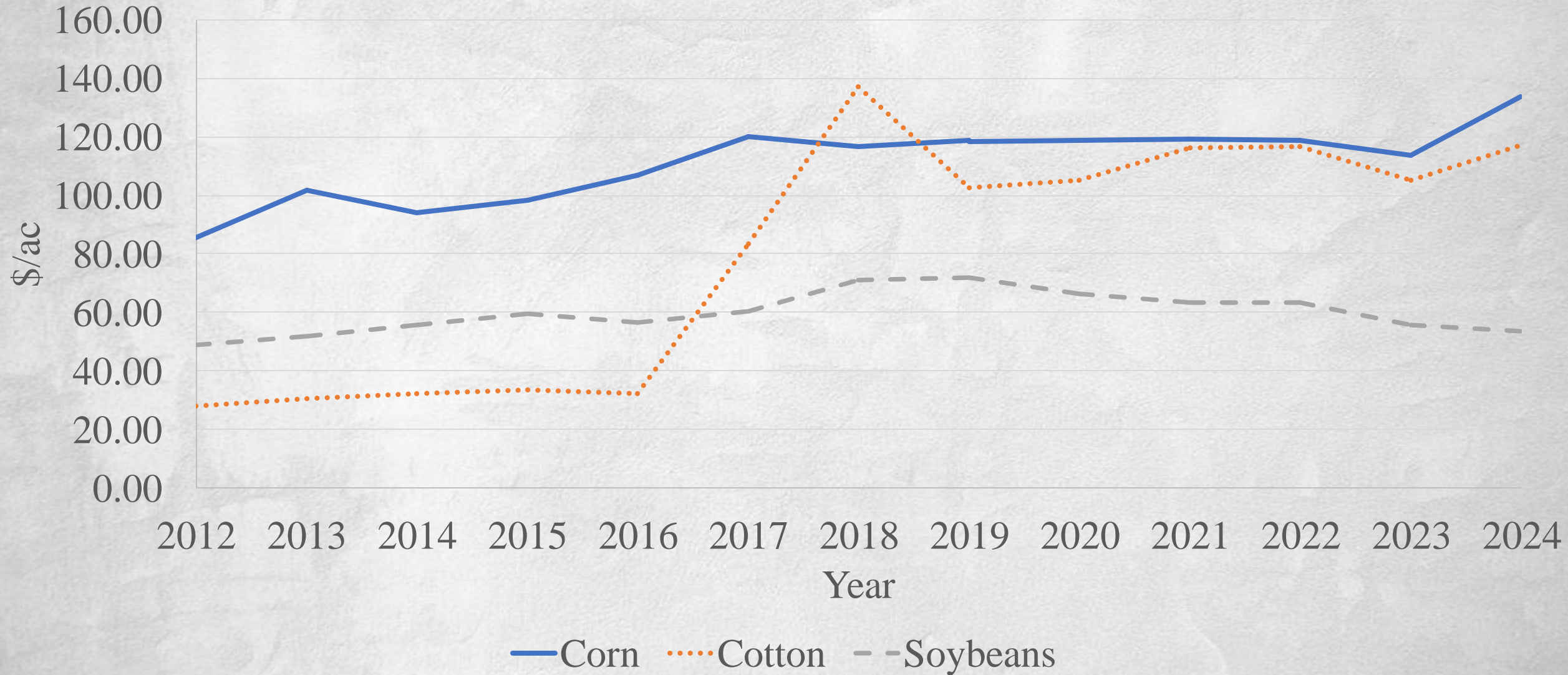


# Herbicide Costs

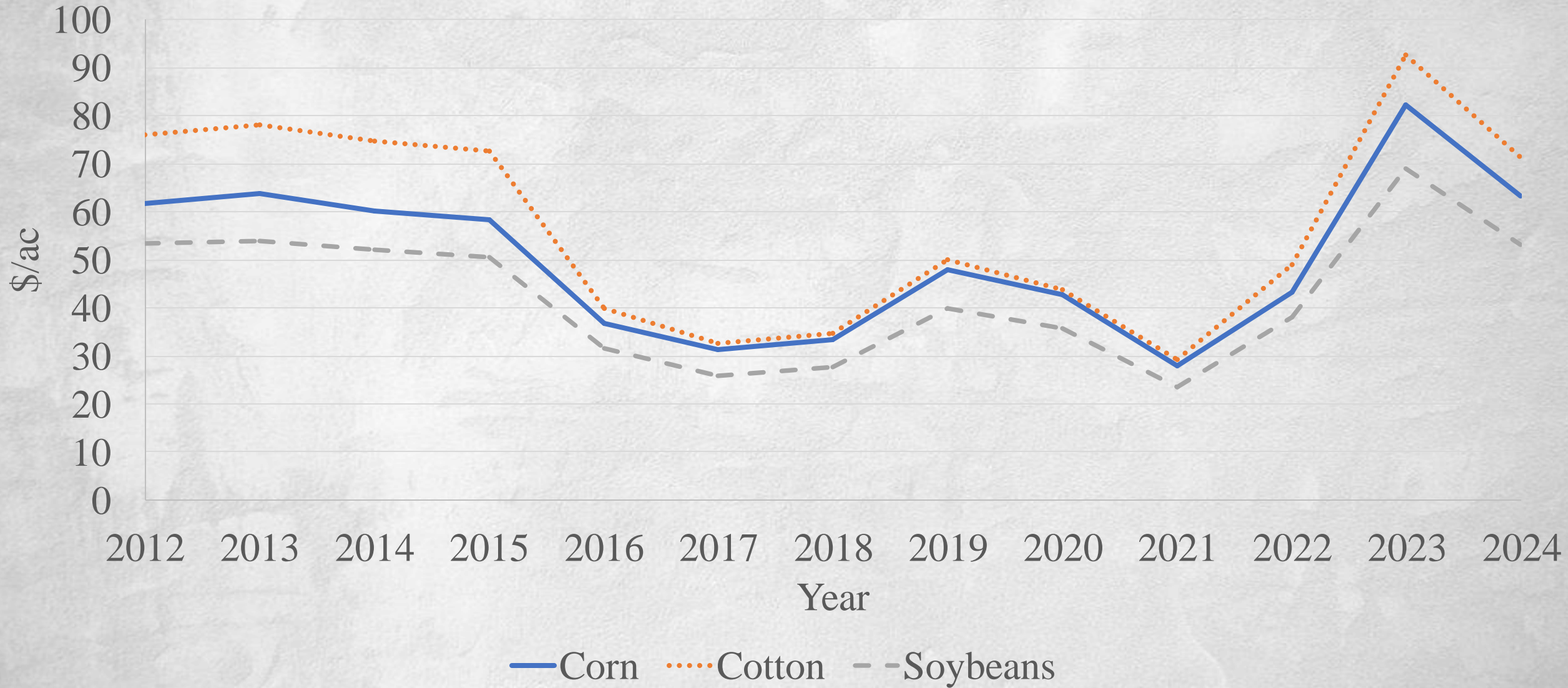




# Seed Costs

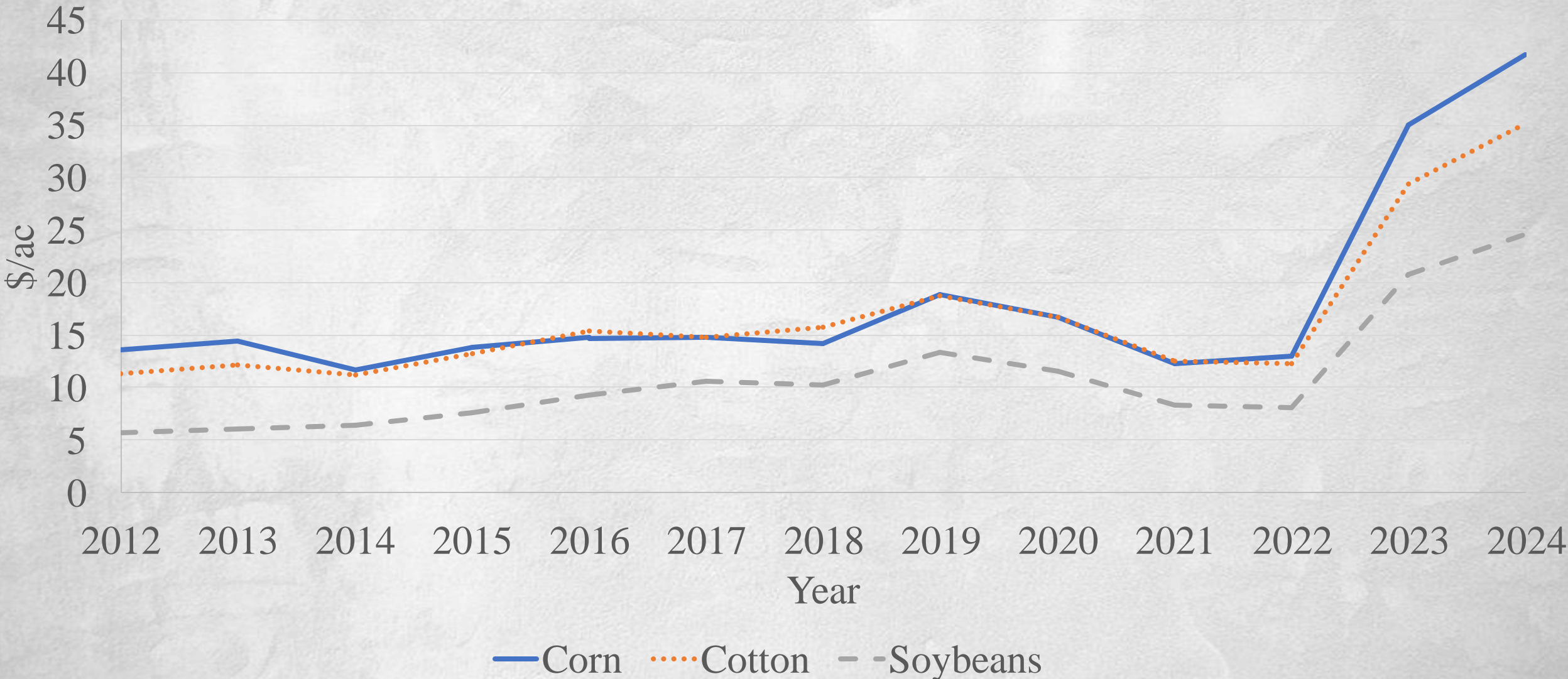


# Diesel Fuel Costs





# Interest Costs



# Corn Input Costs

Table 3. Irrigated Corn Costs 2024

Item	
Yield bu/ac	220
Projected Price \$/bu	\$5.11
Total Direct Expenses \$/ac	\$939.96
Total Fixed Expenses \$/ac	\$163.70
Total Specified Expenses \$/ac	\$1,103.66
Returns above Total Specified Expenses \$/ac	\$20.54

$$\begin{aligned} \text{Breakeven Price} &= \frac{\text{Total Specified Expenses}}{\text{Expected Yield}} \\ &= \frac{\$1,103.66}{220} = \$5.02/\text{bu} \end{aligned}$$





# Cotton Input Costs

Table 4. Irrigated Cotton Costs 2024

Item	
Yield bu/ac	1500
Projected Price \$/lb	\$0.80
Total Direct Expenses \$/ac	\$1,033.91
Total Fixed Expenses \$/ac	\$265.40
Total Specified Expenses \$/ac	\$1,299.31
Returns above Total Specified Expenses \$/ac	\$123.44

$$\text{Breakeven Price} = \frac{\text{Total Specified Expenses}}{\text{Expected Yield}}$$

$$= \frac{\$1,299.31}{1500} = \$0.87/\text{lb}$$



# Soybean Input Costs

Table 5. Irrigated Soybean Costs 2024

Item	
Yield bu/ac	60
Projected Price \$/lb	\$12.67
Total Direct Expenses \$/ac	\$545.70
Total Fixed Expenses \$/ac	\$152.55
Total Specified Expenses \$/ac	\$698.25
Returns above Total Specified Expenses \$/ac	\$61.95

$$\text{Breakeven Price} = \frac{\text{Total Specified Expenses}}{\text{Expected Yield}}$$

$$= \frac{\$698.25}{60} = \mathbf{\$11.64/bu}$$





# Corn vs Soybeans

Crop 1		
	Crop	Budget
Choose crop and budget	Corn	1. Corn, stale seedbed, BtRR, 16-row 30", 220 bu yield goal - Furrow Irrigated, 13 ac-in., Delta Area
Expected Yield	bu/ac	230
Expected Price	\$/bu	\$5.11
Corn Yield Increment		5
Crop 2		
	Crop	Budget
Choose crop and budget	Soybeans	2. Soybeans, full-season, Enlist E3, stale seedbed, 16R 30", Furrow irrigated, 9 ac-in., Delta Area
Expected Yield	bu/ac	60
Expected Price	\$/bu	\$12.67
Soybean Yield Increment		5

Any value in blue can be changed without modifying a formula.

Soybean Yields bu/ac	Difference in Returns Between Corn and Soybeans \$/ac							
	Corn Yields bu/ac							
	205	210	215	220	225	230	235	
45	\$ 71	\$ 96	\$ 120	\$ 144	\$ 169	\$ 193	\$ 218	
50	\$ 9	\$ 34	\$ 58	\$ 82	\$ 107	\$ 131	\$ 156	
55	\$ (53)	\$ (28)	\$ (4)	\$ 20	\$ 45	\$ 69	\$ 94	
60	\$ (115)	\$ (90)	\$ (66)	\$ (42)	\$ (17)	\$ 7	\$ 32	
65	\$ (177)	\$ (152)	\$ (128)	\$ (104)	\$ (79)	\$ (55)	\$ (30)	
70	\$ (239)	\$ (214)	\$ (190)	\$ (166)	\$ (141)	\$ (117)	\$ (92)	
75	\$ (301)	\$ (276)	\$ (252)	\$ (228)	\$ (203)	\$ (179)	\$ (154)	

Net Returns Comparison Calculator:  
<https://www.agecon.msstate.edu/whatwedo/budgets.php>



# Corn vs Cotton

Crop 1		
	Crop	Budget
Choose crop and budget	Corn	1. Corn, stale seedbed, BtRR, 16-row 30", 220 bu yield goal - Furrow Irrigated, 13 ac-in., Delta Area
	bu/ac	
Expected Yield	220	
	\$/bu	
Expected Price	\$5.11	
Corn Yield Increment	5	
Crop 2		
	Crop	Budget
Choose crop and budget	Cotton	2. Cotton, 12R-38" solid, conservation tillage, furrow irrigated, B3XF variety, 10.5 ac-in., Delta Area
	Lint lbs/ac	Cottonseed lbs/ac
Expected Yield	1500	2025
	Lint \$/lb	Cottonseed \$/lb
Expected Price	\$0.80	\$0.11
Cotton Yield Increment	5	

Any value in blue can be changed without modifying a formula.

Seedcotton Yields (Lint + Cottonseed)

	Difference in Returns Between Corn and Cotton \$/ac						
	Corn Yields bu/ac						
	205	210	215	220	225	230	235
3495	\$ (162)	\$ (138)	\$ (114)	\$ (89)	\$ (65)	\$ (40)	\$ (16)
3505	\$ (167)	\$ (143)	\$ (118)	\$ (94)	\$ (69)	\$ (45)	\$ (21)
3515	\$ (172)	\$ (147)	\$ (123)	\$ (98)	\$ (74)	\$ (50)	\$ (25)
3525	\$ (176)	\$ (152)	\$ (127)	\$ (103)	\$ (79)	\$ (54)	\$ (30)
3535	\$ (181)	\$ (156)	\$ (132)	\$ (107)	\$ (83)	\$ (59)	\$ (34)
3545	\$ (185)	\$ (161)	\$ (136)	\$ (112)	\$ (88)	\$ (63)	\$ (39)
3555	\$ (190)	\$ (165)	\$ (141)	\$ (117)	\$ (92)	\$ (68)	\$ (43)

Net Returns Comparison Calculator:  
<https://www.agecon.msstate.edu/whatwedo/budgets.php>





# Soybean vs Cotton

Crop 1		
	Crop	Budget
Choose crop and budget	Soybeans	2. Soybeans, full-season, Enlist E3, stale seedbed, 16R 30", Furrow irrigated, 9 ac-in., Delta Area
	bu/ac	
Expected Yield	60	
	\$/bu	
Expected Price	\$12.67	
Soybean Yield Increment	5	
Crop 2		
	Crop	Budget
Choose crop and budget	Cotton	2. Cotton, 12R-38" solid, conservation tillage, furrow irrigated, B3XF variety, 10.5 ac-in., Delta Area
	Lint lbs/ac	Cottonseed lbs/ac
Expected Yield	1500	2025
	Lint \$/lb	Cottonseed \$/lb
Expected Price	\$0.80	\$0.11
Cotton Yield Increment	5	

Any value in blue can be changed without modifying a formula.

Seedcotton Yields (Lint + Cottonseed)

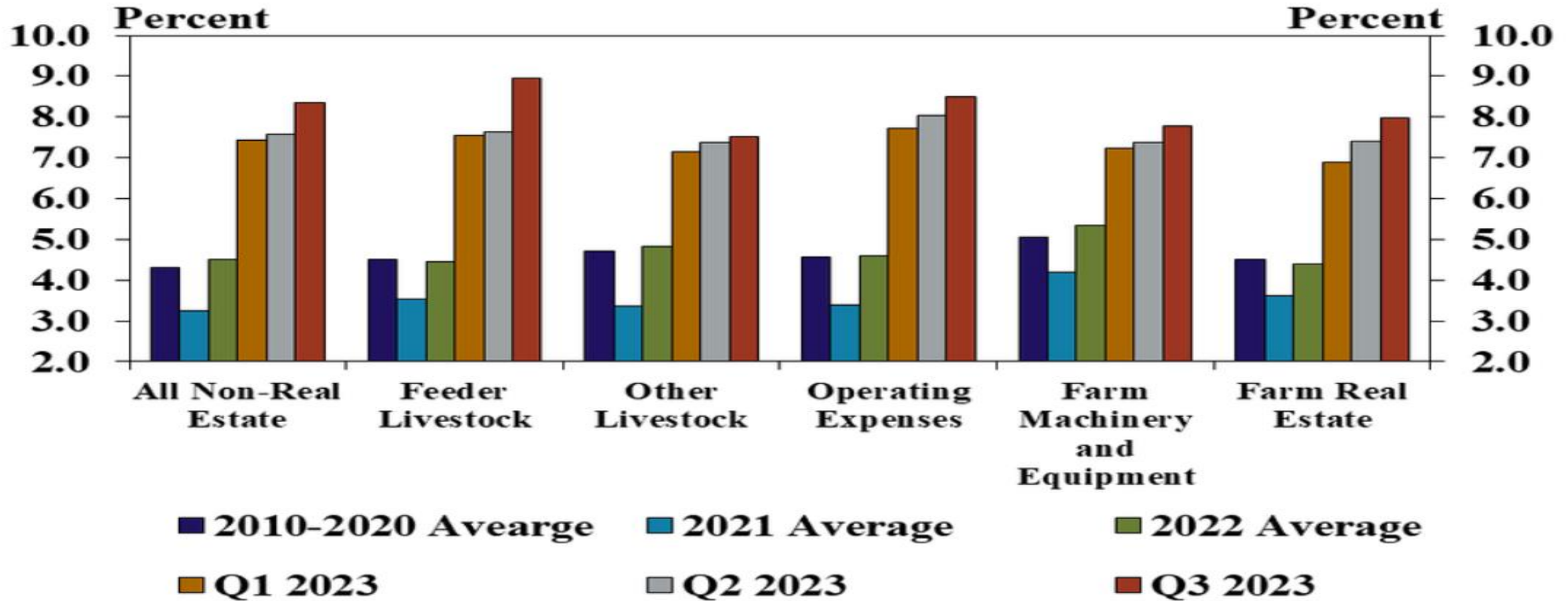
	Difference in Returns Between Soybeans and Cotton \$/ac							
	Soybean Yields bu/ac							
	45	50	55	60	65	70	75	
<b>3495</b>	\$ (234)	\$ (172)	\$ (110)	\$ (48)	\$ 14	\$ 76	\$ 138	
<b>3505</b>	\$ (238)	\$ (176)	\$ (114)	\$ (52)	\$ 10	\$ 72	\$ 134	
<b>3515</b>	\$ (243)	\$ (181)	\$ (119)	\$ (57)	\$ 5	\$ 67	\$ 129	
<b>3525</b>	\$ (247)	\$ (185)	\$ (123)	\$ (61)	\$ 1	\$ 63	\$ 125	
<b>3535</b>	\$ (252)	\$ (190)	\$ (128)	\$ (66)	\$ (4)	\$ 58	\$ 120	
<b>3545</b>	\$ (256)	\$ (194)	\$ (132)	\$ (70)	\$ (8)	\$ 54	\$ 116	
<b>3555</b>	\$ (261)	\$ (199)	\$ (137)	\$ (75)	\$ (13)	\$ 49	\$ 111	

Net Returns Comparison Calculator:  
<https://www.agecon.msstate.edu/whatwedo/budgets.php>



# Interest Rates

## Chart 4: Average Interest Rates by Loan Type



Sources: Survey of Terms of Lending to Farmers and Federal Reserve Bank of Kansas City





# Interest Rate Impact

## Loan 1:

- \$200,000 loan
- 1 year
- 3.5% interest rate
- Interest = \$7,000

## Loan 2:

- 200,000
- 1 year
- 8.25% interest rate
- Interest = \$16,500

**Increase of \$9,500**



# Interest Rate Impact

- Higher interest rates are impacting costs
- Led to lower farm lending
  - 20% decrease in operating loan volume compared to 2022 (Source: Kansas City Fed)
- Important to evaluate loan payments
  - Loan Amortization Calculator
  - <https://www.agecon.msstate.edu/whatwedo/budgets.php>





# Summary

- Direct costs decreased but fixed costs and interest rates increased
- But lower crop prices are projecting lower income and profits
- Higher interest rates will have big impact going forward



# Questions?

## 2024 Mississippi Agricultural Outlook Conference

To register, please scan the QR code:



JANUARY 11, 2024

Bost Extension Center

190 Bost Drive, Mississippi State, MS 39762

For more information contact Kevin Kim at [kevin.kim@msstate.edu](mailto:kevin.kim@msstate.edu) or 662-325-2676



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Ag Outlook Conference

January 11, 2024 in Bost

Nathan Kauffman from Kansas City Fed presenting



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