



**DIVISION OF AGRICULTURE**  
**RESEARCH & EXTENSION**

*University of Arkansas System*

# Soybean Situation and Outlook

SEEC 2022/2023 Outlook Conference  
September 19-21, 2022

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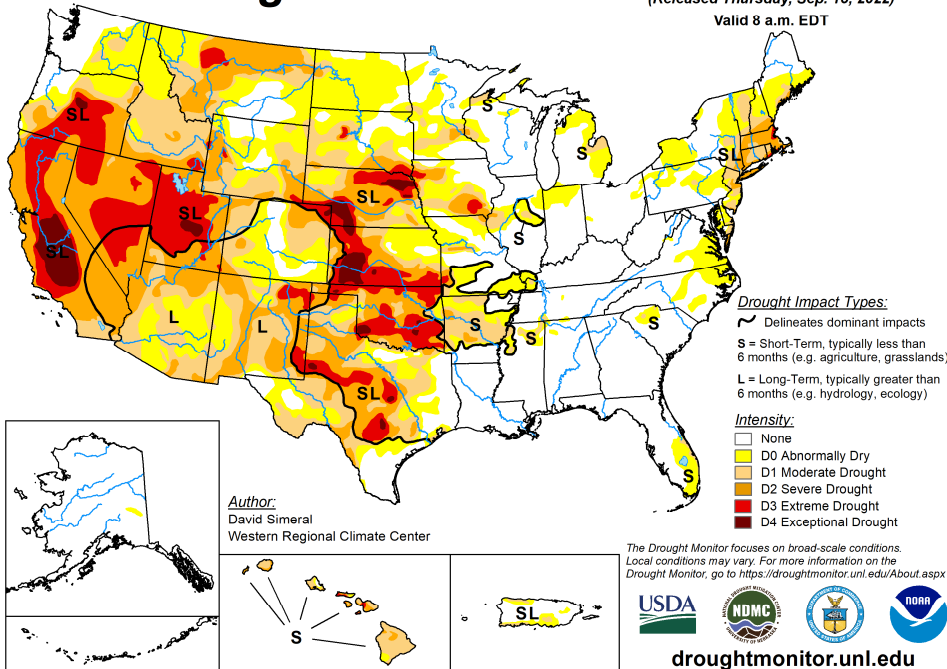
# Key Takeaways

- Drought and warmer weather is driving U.S. soybean yields to drop below trend. Prices remain favorable. Increased costs will eat up potential profit gains.
- Record projection for Brazil and 5-year-high global ending stocks will result in slight dip in harvest price.
- Low chance of ARC and no PLC payments but crop insurance is viable option. What is producer perception? What about Margin Protection insurance?

# SOYBEAN SITUATION

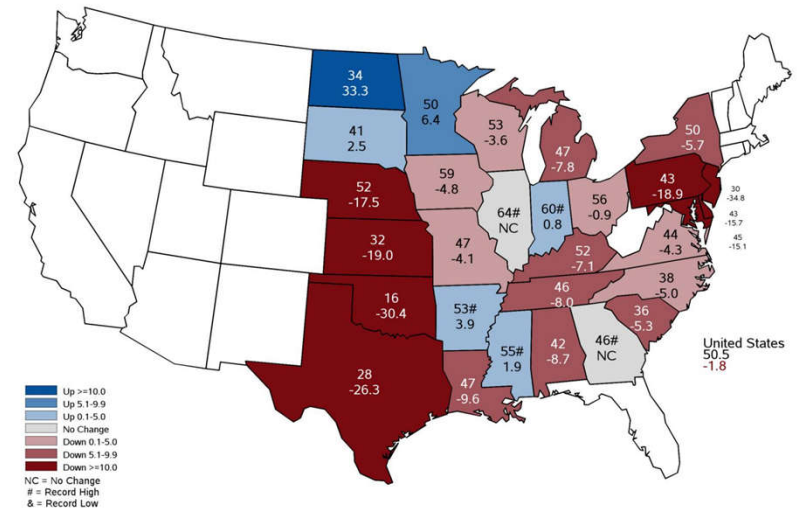
# U.S. Drought Monitor

September 13, 2022  
 (Released Thursday, Sep. 15, 2022)  
 Valid 8 a.m. EDT



# September 2022 Soybean Yield

## Bushels and Percent Change from Previous Year



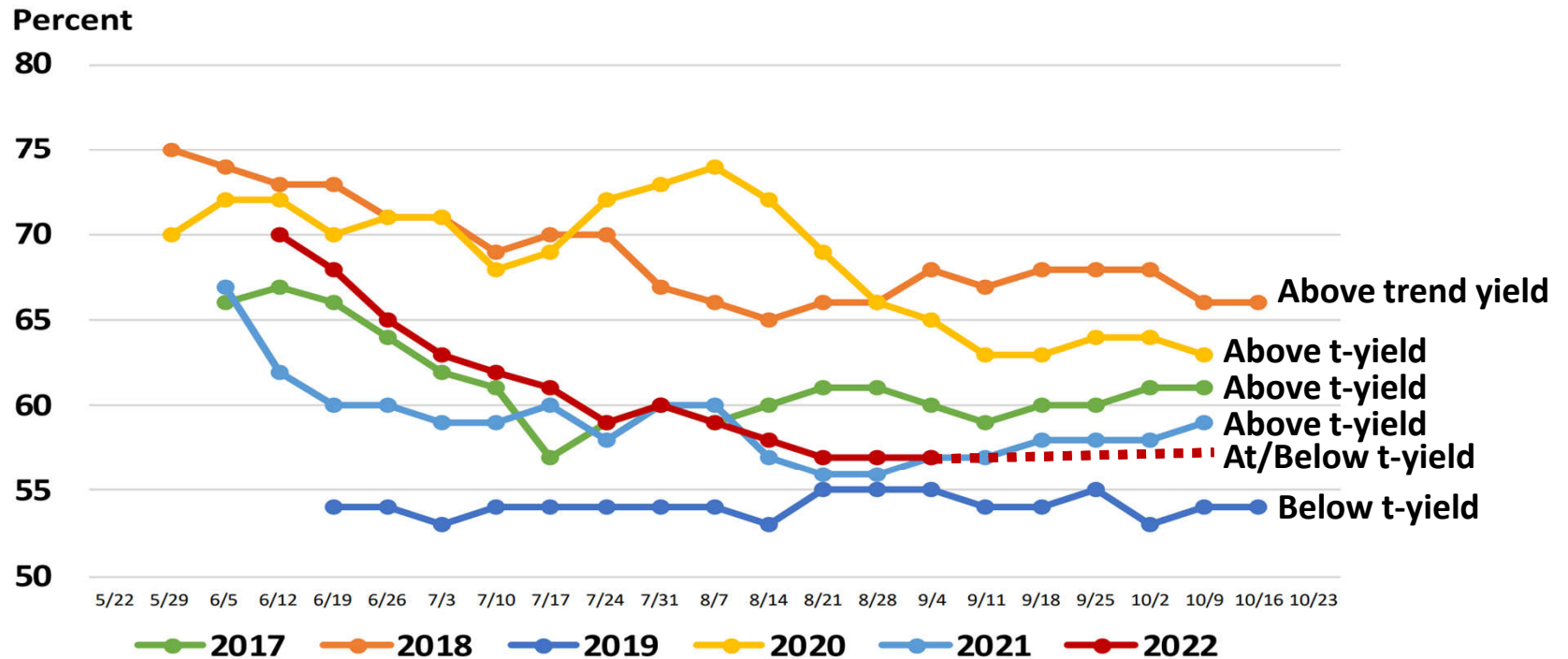
United States Department of Agriculture  
 National Agricultural Statistics Service

September 12, 2022



# United States Soybean Condition

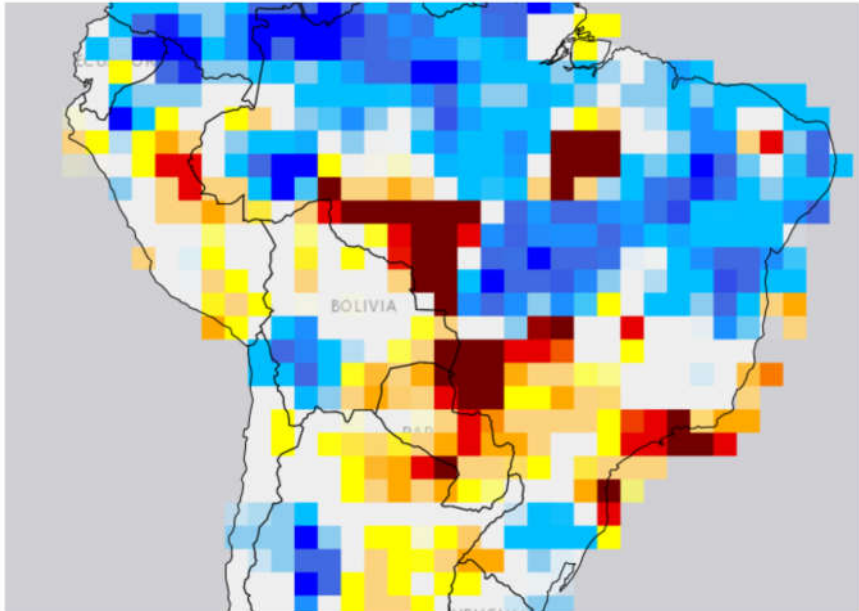
## Percent Rated Good to Excellent



United States Department of Agriculture  
National Agricultural Statistics Service

September 12, 2022

### 9-Month Standardized Precipitation Index (GPPC)



Basemap Sources: Esri, HERE, Garmin, INCREMENT P, © OpenStreetMap contributors, and the GIS user community

#### Drought Categories



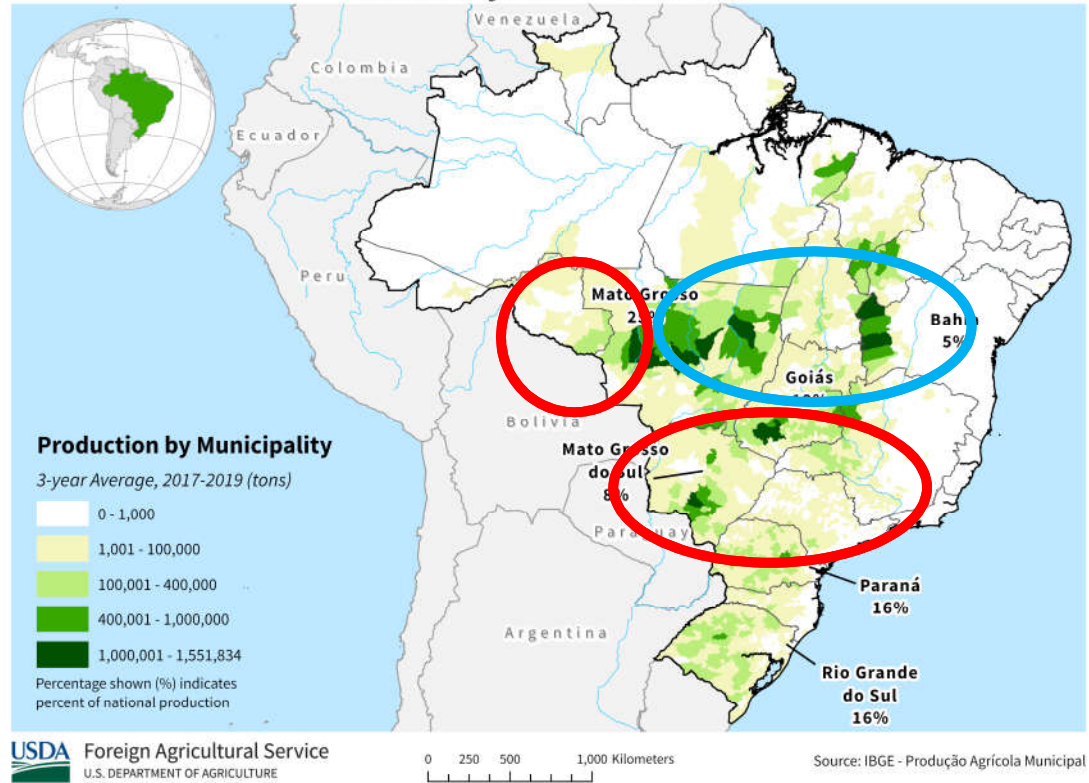
#### Wetness Categories



Source(s): GPPC  
Updates Monthly - 08/10/22

**Drought.gov**

### Brazil: Soybean Production

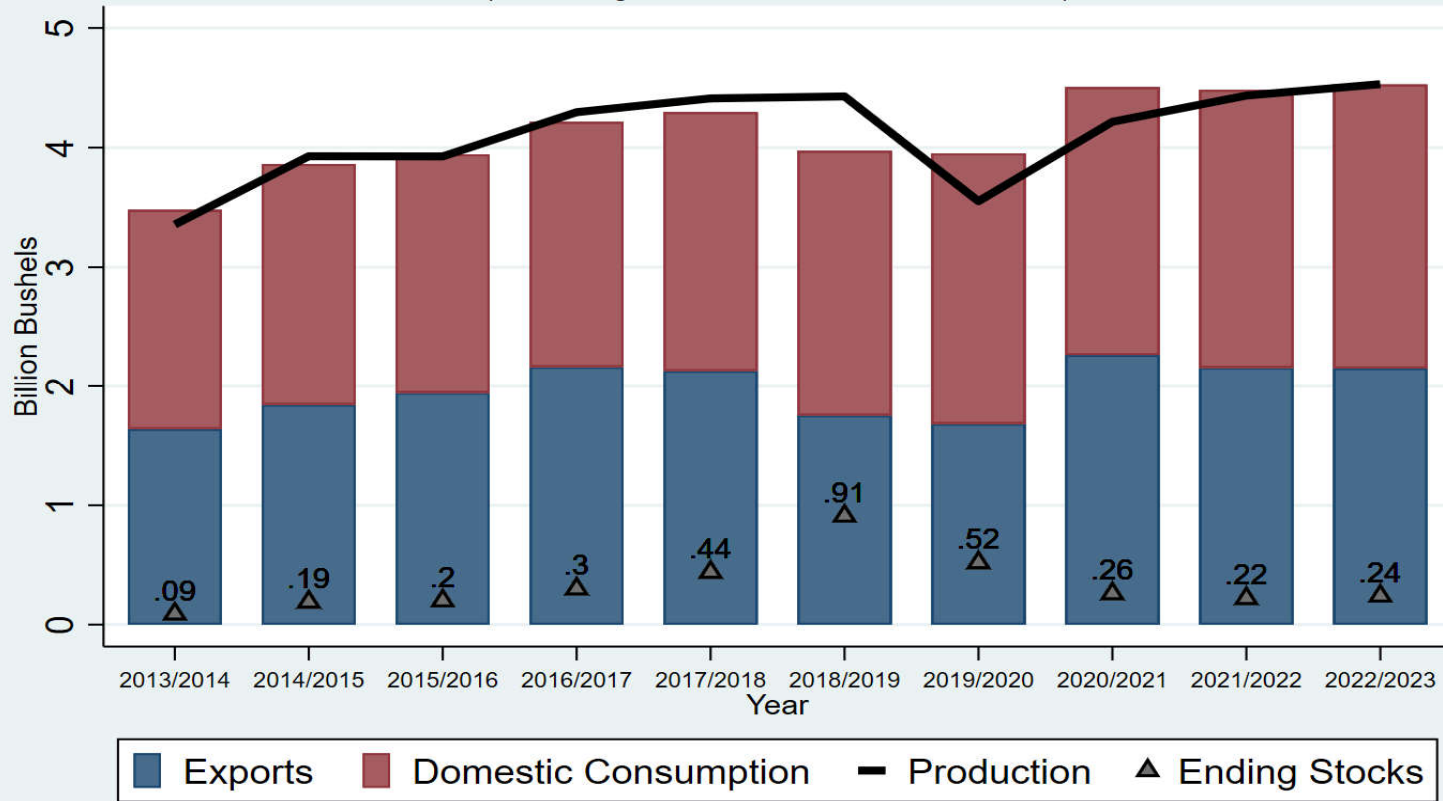


**2021/2022 yield: 45.13 bu/ac**  
**2022/2023E yield: 52.62 bu/ac**

Red areas are drought; blue are excess rainfall

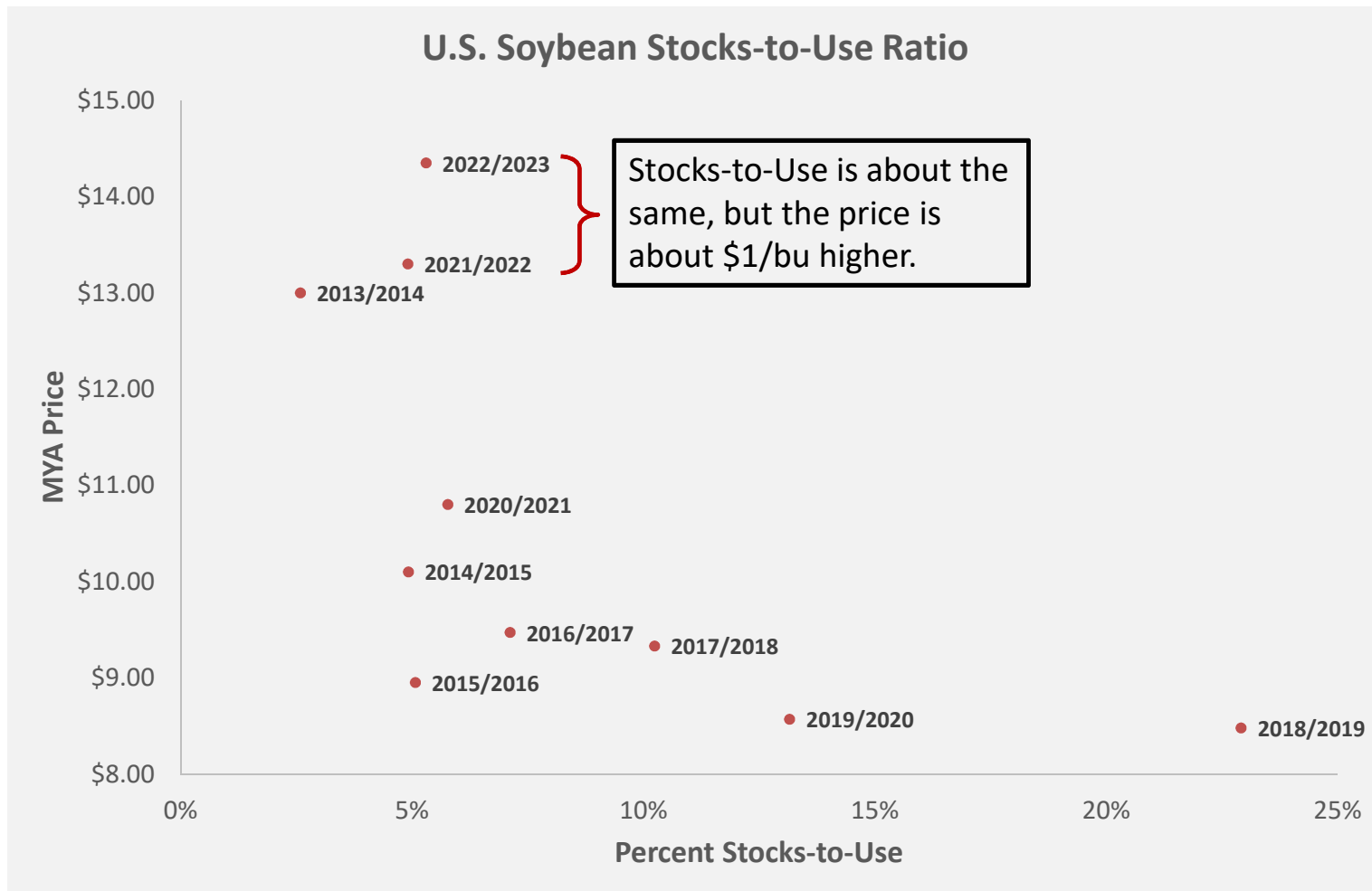
# SUPPLY AND DEMAND

U.S. Soybean Production, Consumption, Exports, and Ending Stocks  
(Marketing Years 2013/2014 to 2022/2023)

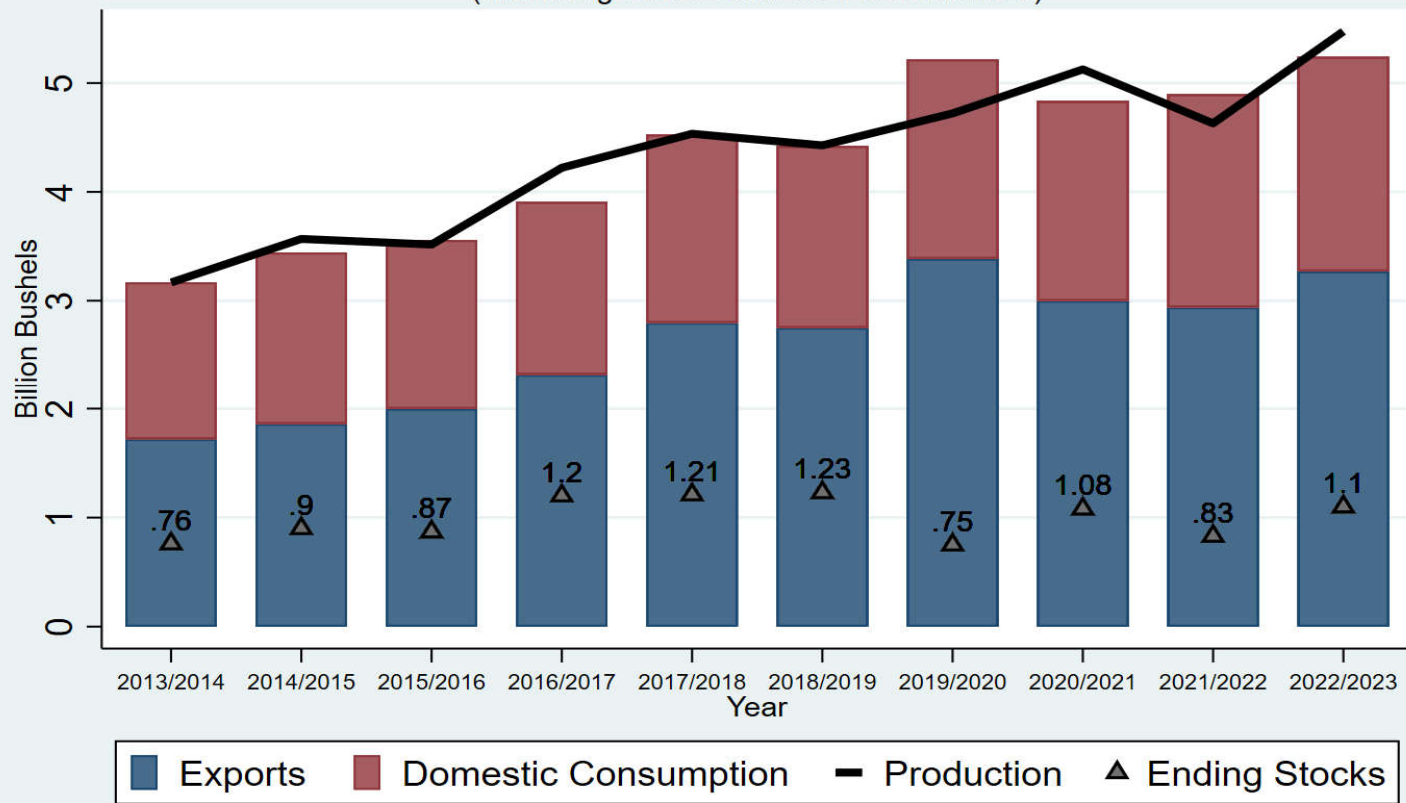


Source: USDA-FAS (2022)



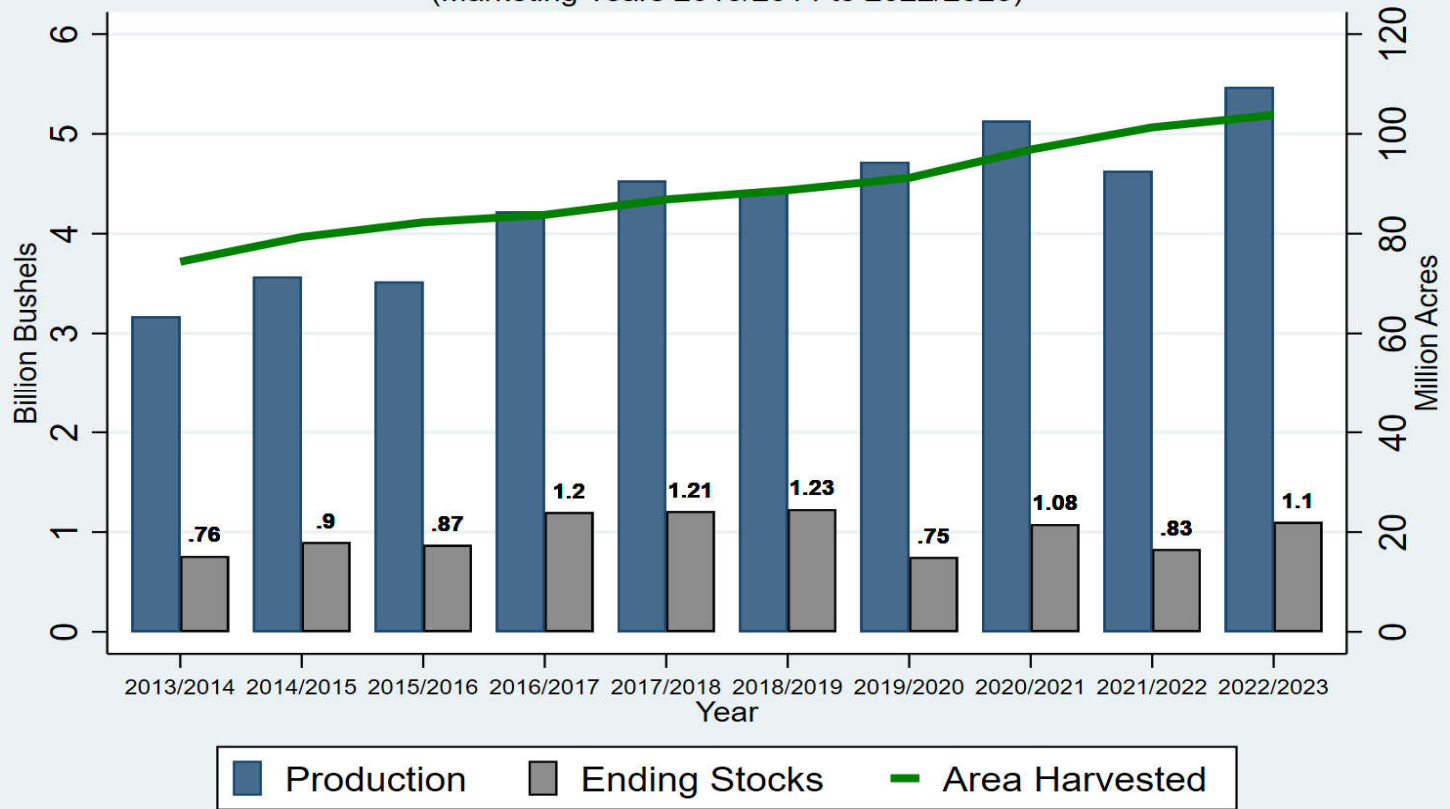


Brazil Soybean Production, Consumption, Exports, and Ending Stocks  
(Marketing Years 2013/2014 to 2022/2023)



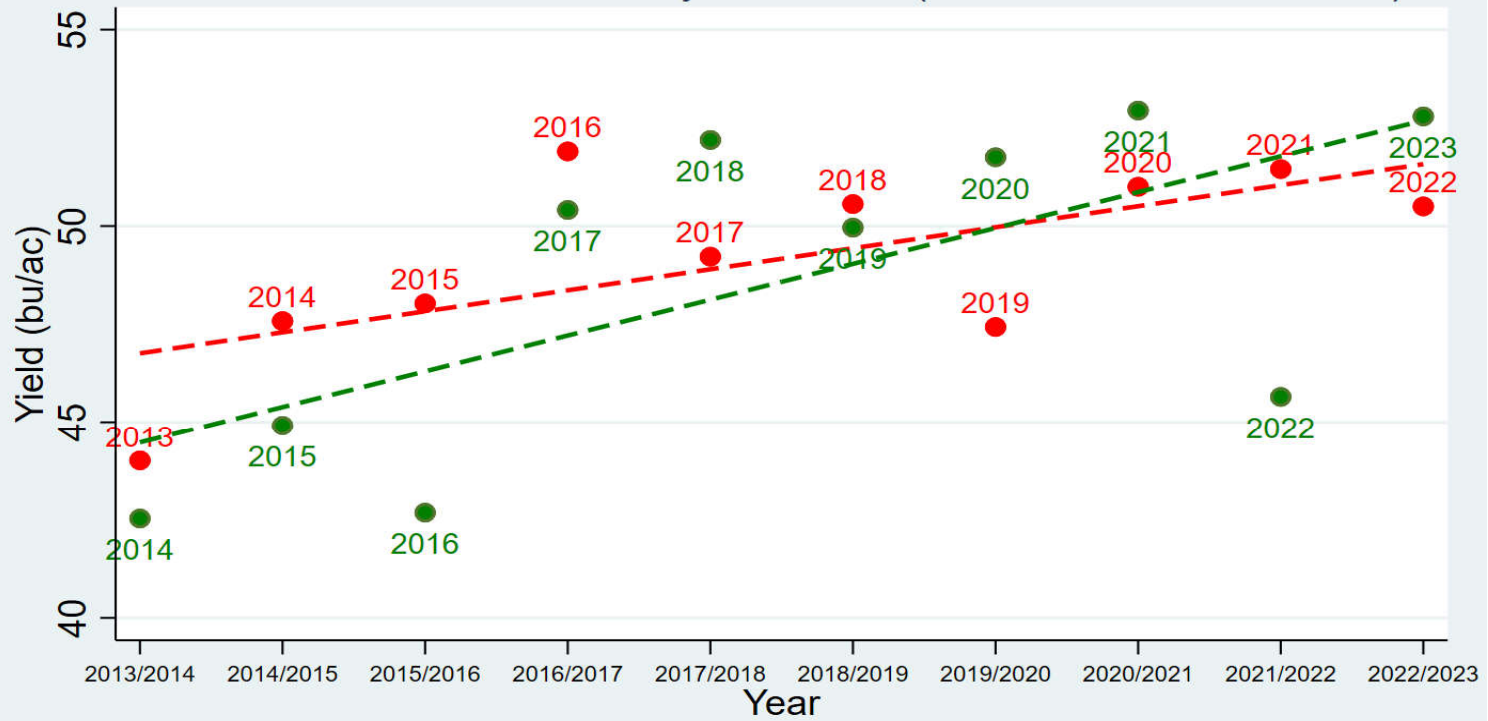
Source: USDA-FAS (2022)

Brazil Soybean Production and Ending Stocks  
(Marketing Years 2013/2014 to 2022/2023)



Source: USDA-FAS (2022)

### United States and Brazil Soybean Yield (2013/2014 to 2022/2023)

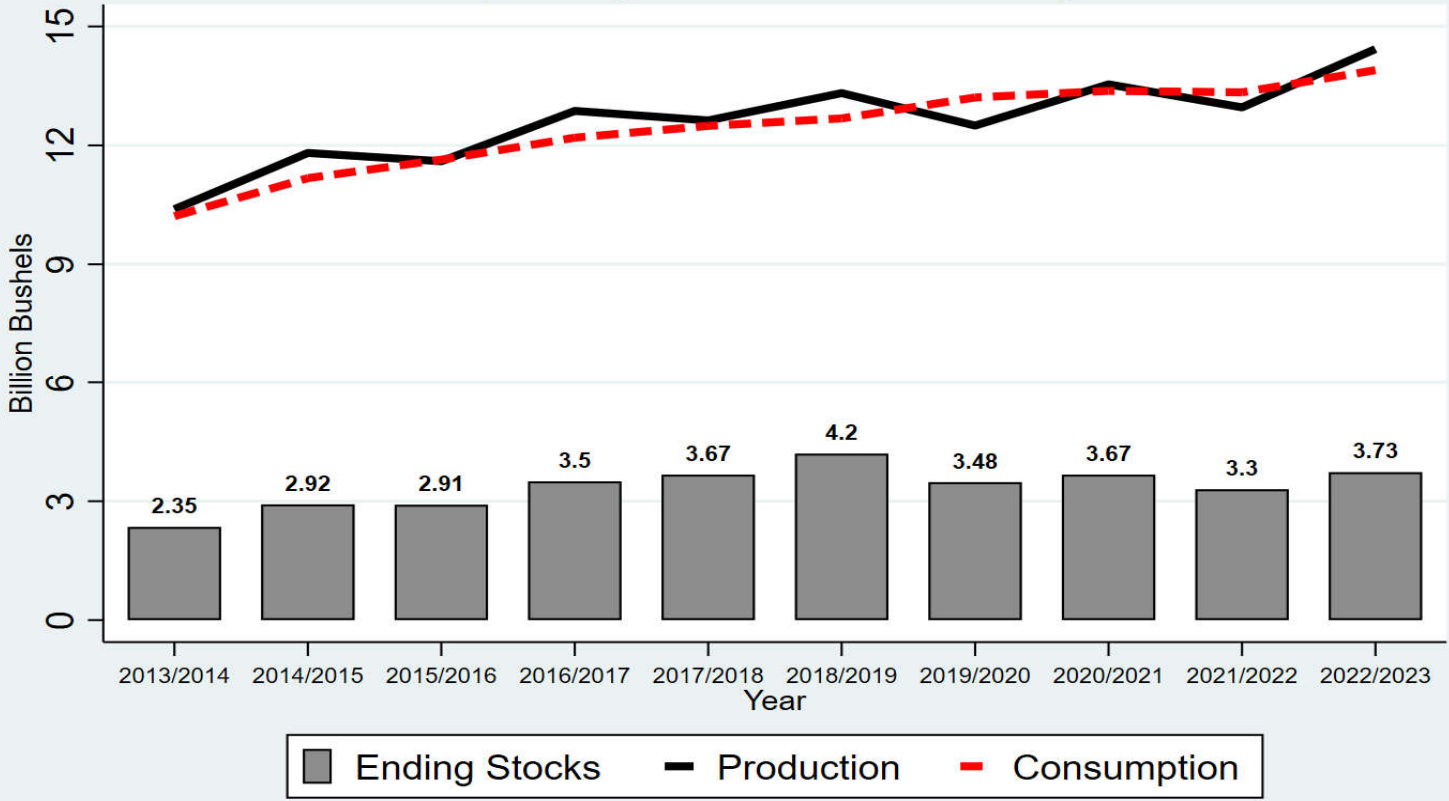


● United States    - Trend (U.S.)  
● Brazil            - Trend (Brazil)

Source: USDA-FAS (2022)

# Global Production, Consumption, and Ending Stocks

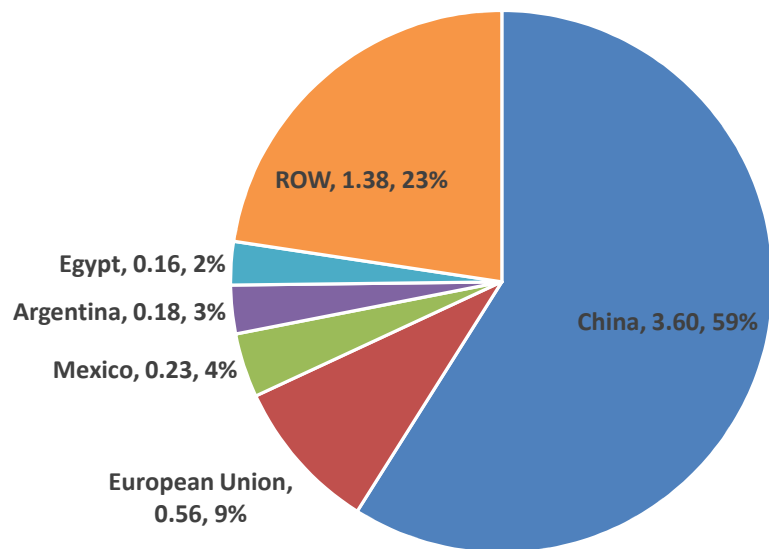
(Marketing Years 2013/2014 to 2022/2023)



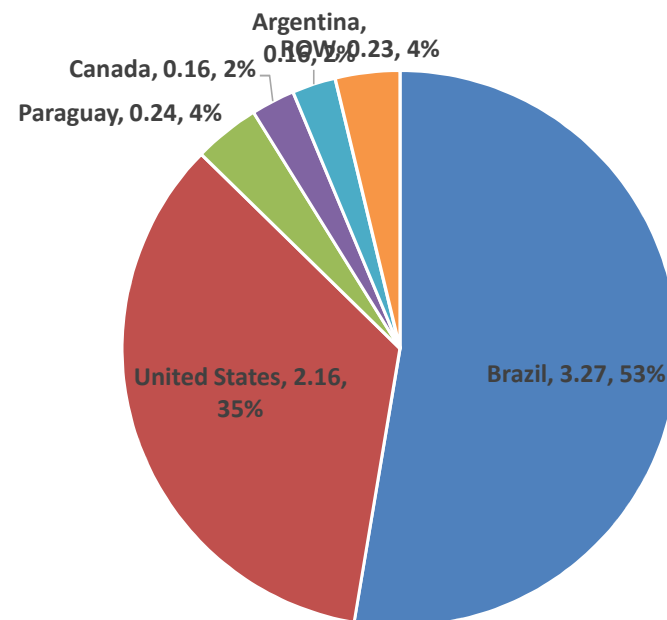
Source: USDA-FAS (2022)

# TRADE

**2022/2023 Projected Soybean Imports by Country**  
 (Total Imports: 6.11 billion bushels)

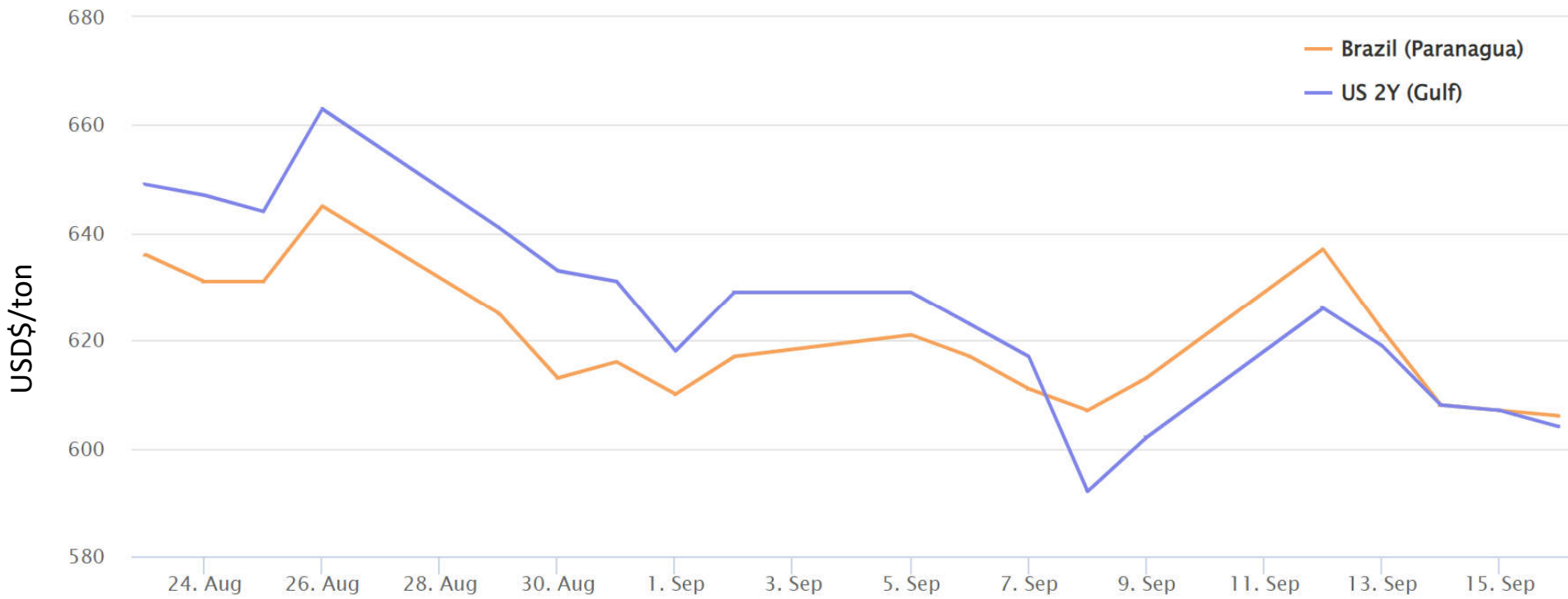


**2022/2023 Projected Soybean Exports by Country**  
 (Total Exports: 6.22 billion bushels)



Source: USDA-FAS (2022)

## Soyabeans Prices



Source: International Grains Council (2022)



# It is consistently cheaper for China to buy from Brazil

## BRL to USD Chart

• 1 BRL = 0.189706 USD Sep 19, 2022, 13:58 UTC

Brazilian Real to US Dollar



# PRICES AND PROFITABILITY OUTLOOK

Published on TradingView.com, Sep 19, 2022 08:43 UTC-5



TradingView

# Increased ethanol and green energy demand resulting in increases in soybean oil price

**Soybean Meal Futures (DEC22)**



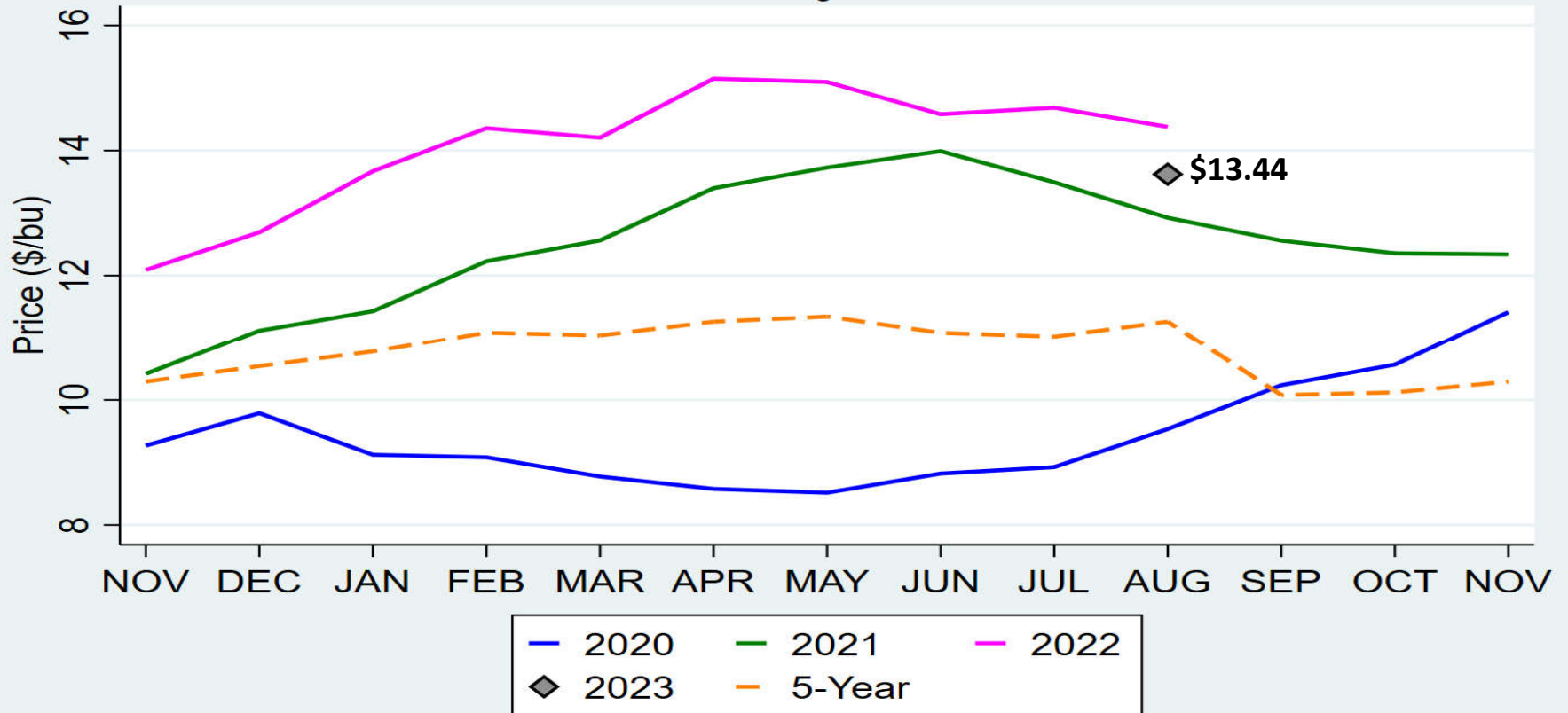
**Soybean Oil Futures (DEC22)**



**CME Crush Margin = 0.022\*Price of Meal + 11\*Price of Oil – Price of Soybeans**  
**Current Crush Margin = \$9.42 + \$7.17 – \$14.44 = \$2.15**

## Soybean Average Monthly November Futures Contract Price

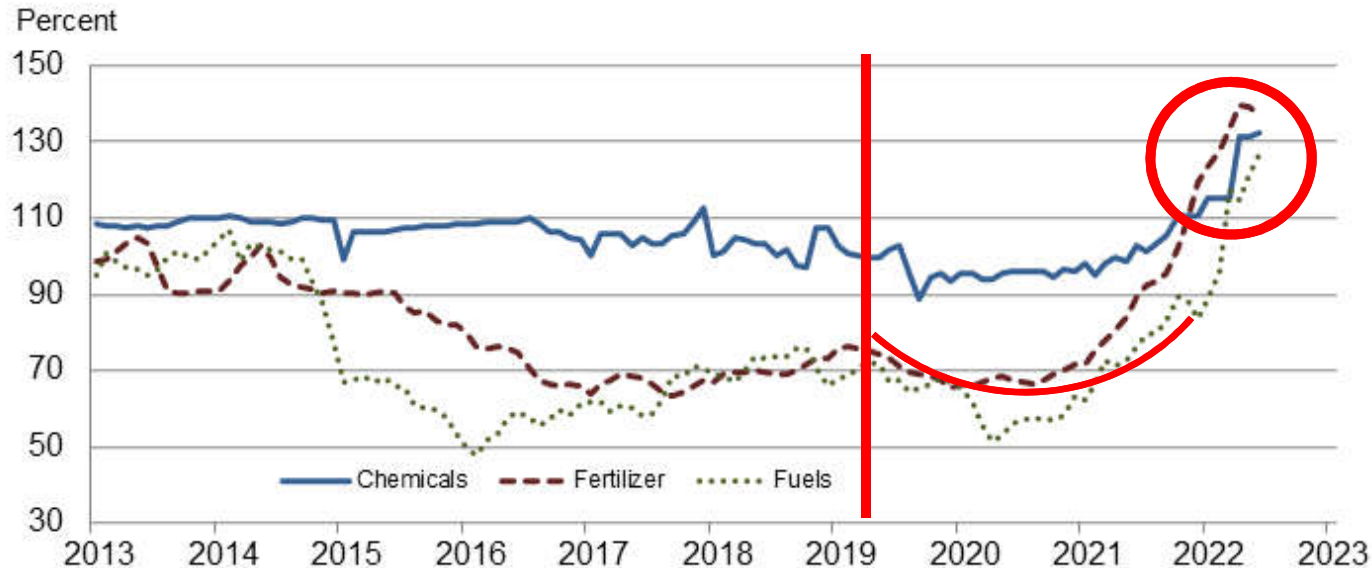
5-Year Average: 2018-2022



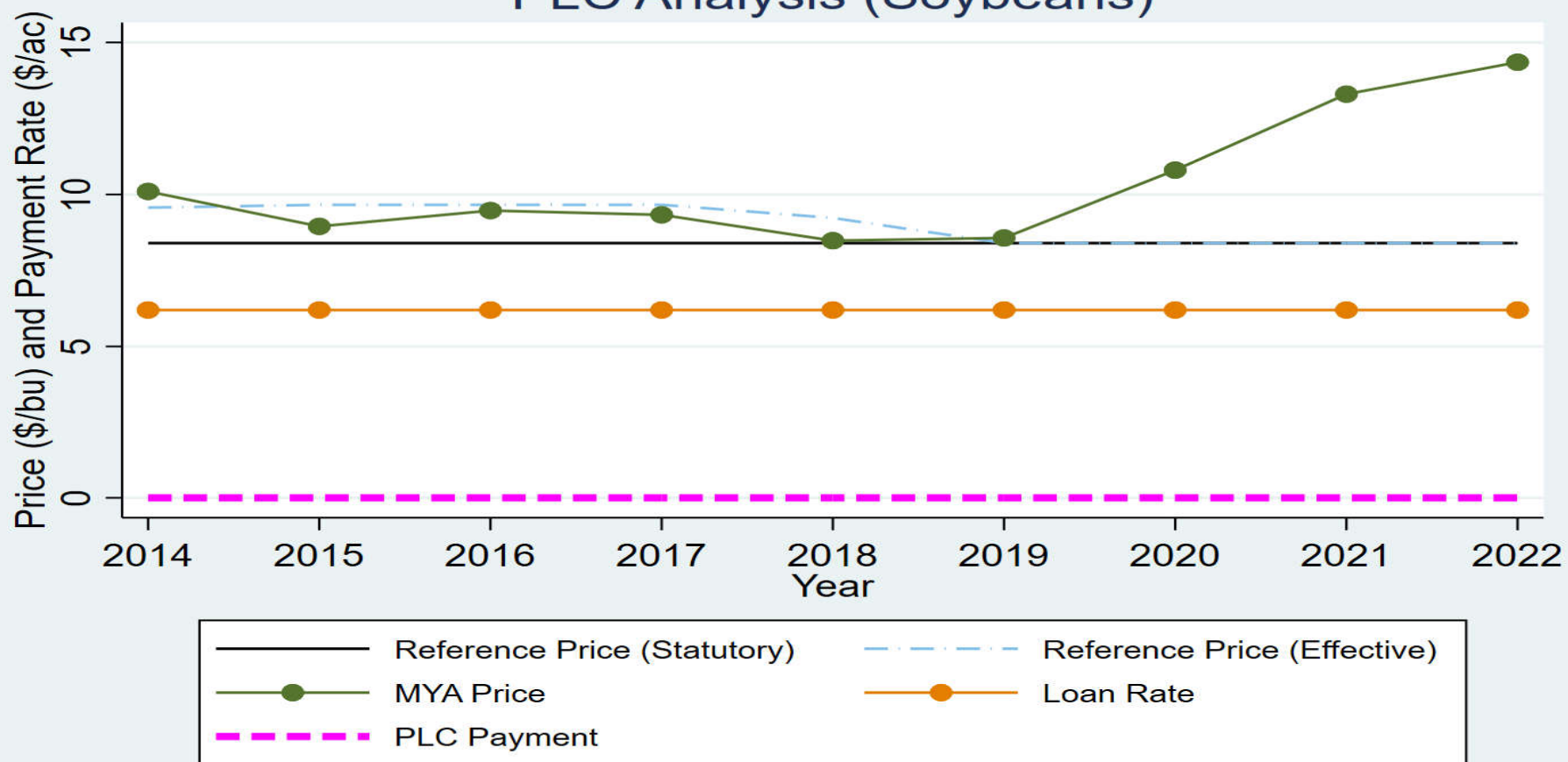
Source: Barchart.com (2022)

# High input costs → Shrinking margins

**Paid Indexes by Non-farm Origin and Month,  
Chemicals, Fertilizer, and Fuels –  
United States: 2011=100**



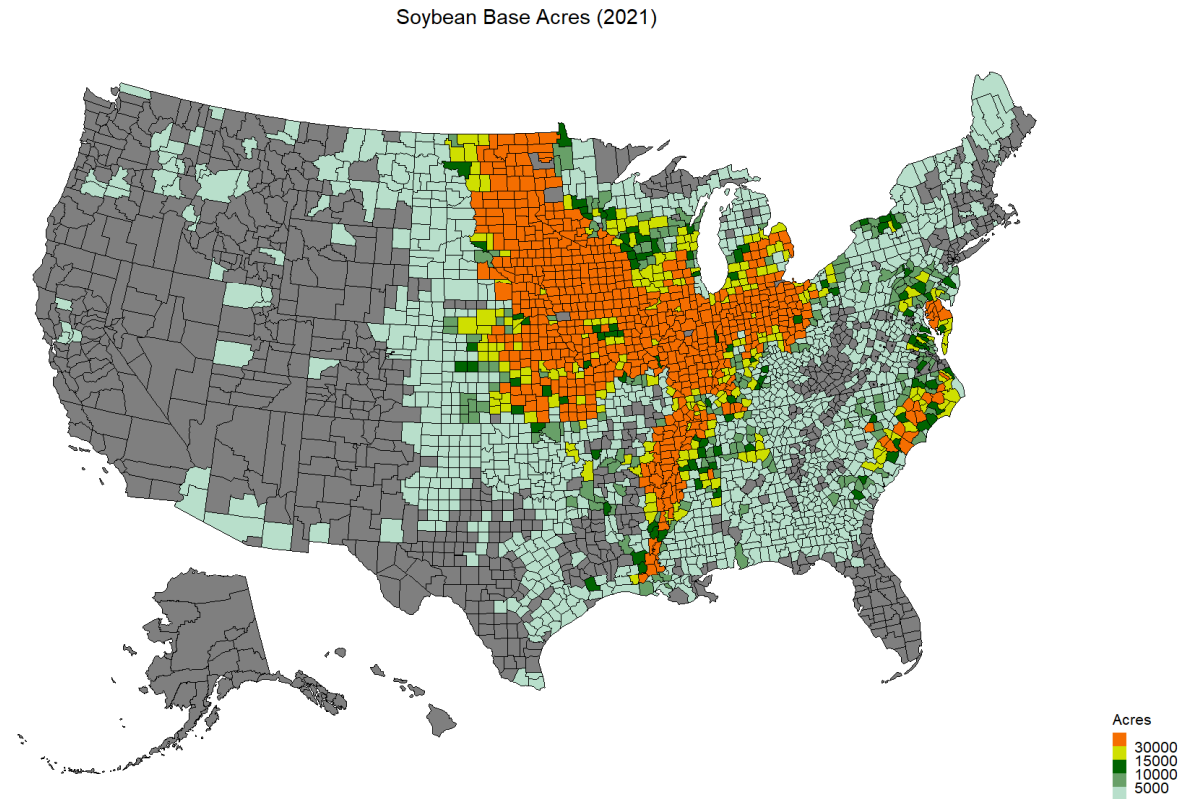
## PLC Analysis (Soybeans)



Source: USDA-NASS and USDA-FSA (2022)

## ARC-CO Analysis (Soybeans)

- MYA Price (Projected): \$14.35
- Benchmark yield will vary across counties
- Unlikely ARC-CO will trigger except in Texas and Oklahoma
- Relatively little base acres in TX and OK



Source: USDA-FSA (2022)



# Profit/Loss Scenarios

## No Insurance

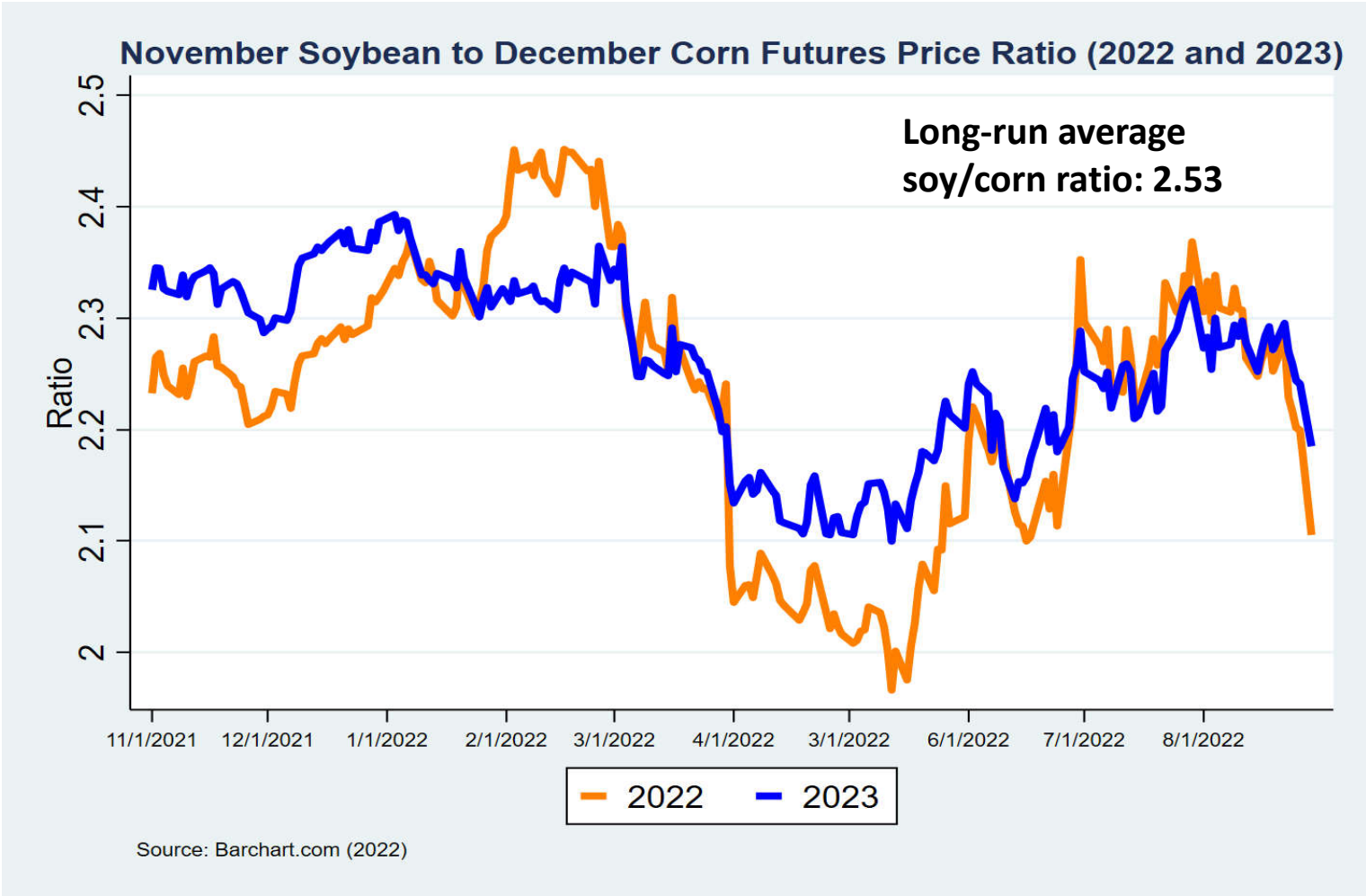
		Yield (bu/acre)						
		30	35	40	45	50	55	60
Price (\$/bu)	\$ 10.00	(273.00)	(223.00)	(173.00)	(123.00)	(73.00)	(23.00)	27.00
	\$ 10.50	(258.00)	(205.50)	(153.00)	(100.50)	(48.00)	4.50	57.00
	\$ 11.00	(243.00)	(188.00)	(133.00)	(78.00)	(23.00)	32.00	87.00
	\$ 11.50	(228.00)	(170.50)	(113.00)	(55.50)	2.00	59.50	117.00
	\$ 12.00	(213.00)	(153.00)	(93.00)	(33.00)	27.00	87.00	147.00
	\$ 12.50	(198.00)	(135.50)	(73.00)	(10.50)	52.00	114.50	177.00
	\$ 13.00	(183.00)	(118.00)	(53.00)	12.00	77.00	142.00	207.00
	\$ 13.50	(168.00)	(100.50)	(33.00)	34.50	102.00	169.50	237.00
	\$ 14.00	(153.00)	(83.00)	(13.00)	57.00	127.00	197.00	267.00
	\$ 14.50	(138.00)	(65.50)	7.00	79.50	152.00	224.50	297.00
\$ 15.00	(123.00)	(48.00)	27.00	102.00	177.00	252.00	327.00	

## RP 85% Coverage (EU)

		Yield (bu/acre)						
		30	35	40	45	50	55	60
Price (\$/bu)	\$ 10.00	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ (3.18)	\$ (1.68)	\$ 0.00
	\$ 10.50	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ (3.18)	\$ (1.68)	\$ 30.00
	\$ 11.00	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ (3.18)	\$ 5.00	\$ 60.00
	\$ 11.50	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ (3.18)	\$ 32.50	\$ 90.00
	\$ 12.00	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ 0.00	\$ 60.00	\$ 120.00
	\$ 12.50	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ 25.00	\$ 87.50	\$ 150.00
	\$ 13.00	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ (4.68)	\$ 50.00	\$ 115.00	\$ 180.00
	\$ 13.50	\$ (9.18)	\$ (7.68)	\$ (6.18)	\$ 7.50	\$ 75.00	\$ 142.50	\$ 210.00
	\$ 14.00	\$ (8.75)	\$ (7.25)	\$ (5.75)	\$ 30.00	\$ 100.00	\$ 170.00	\$ 240.00
	\$ 14.50	\$ 12.50	\$ 14.00	\$ 15.50	\$ 52.50	\$ 125.00	\$ 197.50	\$ 270.00
\$ 15.00	\$ 33.75	\$ 35.25	\$ 36.75	\$ 75.00	\$ 150.00	\$ 225.00	\$ 300.00	

Farm Program Estimated Payment Rates  
 ARC-CO: \$0.00/ac  
 PLC: \$0.00/ac

Crop Insurance assumptions  
 APH yield: 50 bu/ac  
 Projected Price: \$13.69/ac



# Summary

- We have seen much more price volatility accompany higher soybean prices.
- Brazil is projected to have a record year, bouncing back from the wet and dry 2021/2022 year. However, La Nina is still lingering which adds to SA production uncertainty.
- Prices are still favorable if you're at or above trend yield. If you're below trend, protect against downside price movements before prices fall further. Watch out for Russia limiting natural gas to Western Europe and its impact on fertilizer prices.
- Increased soybean crush capacity driven by green energy may drive up prices. Soybean planted acreage will most likely fall relative to corn with more favorable corn prices, however fertilizer costs may provide push-back.

# Thank you! Questions?

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# Appendix: Parameters used for P/L

## UA Crop Enterprise Budget (RR, Furrow)

		Units	Value
<b>Gross Revenue</b>	Harvest Price (Cash)	\$/bu	14.00
	Basis	\$/bu	0.30
	Yield	bu/ac	50.00
<b>Gross Value of Production</b>		<b>\$/ac</b>	<b>700.00</b>
<b>Operating Costs</b>	Seed	\$/ac	91.50
	Fertilizer	\$/ac	80.63
	Chemicals	\$/ac	149.89
	Custom services	\$/ac	14.00
	Fuel, lube, electricity	\$/ac	16.21
	Irrigation (12 ac-in)	\$/ac	43.61
	Repairs	\$/ac	14.48
	Interest on operating capital	\$/ac	10.43
<b>Operating Costs (Total)</b>		<b>\$/ac</b>	<b>420.75</b>
<b>Allocated overhead</b>	Hired labor	\$/ac	9.27
	Scouting, Hauling, Check-off	\$/ac	26.33
	CRC and Mahinery	\$/ac	115.45
<b>Allocated overhead (Total)</b>		<b>\$/ac</b>	<b>151.05</b>
<b>Specified costs (Total)</b>		<b>\$/ac</b>	<b>571.80</b>
<b>Returns over Specified Costs</b>		<b>\$/ac</b>	<b>128.20</b>
<b>Crop Insurance Parameters</b>	APH	bu/ac	50.00
	Projected Price	\$/bu	13.69
	Coverage Level	%	85.00
	Premium	\$/ac	28.00
<b>Returns with Net Indemnity</b>		<b>\$/ac</b>	<b>100.20</b>

# Appendix: 75% RP Coverage

## No Insurance

		Yield (bu/acre)						
		30	35	40	45	50	55	60
Price (\$/bu)	\$ 10.00	(273.00)	(223.00)	(173.00)	(123.00)	(73.00)	(23.00)	27.00
	\$ 10.50	(258.00)	(205.50)	(153.00)	(100.50)	(48.00)	4.50	57.00
	\$ 11.00	(243.00)	(188.00)	(133.00)	(78.00)	(23.00)	32.00	87.00
	\$ 11.50	(228.00)	(170.50)	(113.00)	(55.50)	2.00	59.50	117.00
	\$ 12.00	(213.00)	(153.00)	(93.00)	(33.00)	27.00	87.00	147.00
	\$ 12.50	(198.00)	(135.50)	(73.00)	(10.50)	52.00	114.50	177.00
	\$ 13.00	(183.00)	(118.00)	(53.00)	12.00	77.00	142.00	207.00
	\$ 13.50	(168.00)	(100.50)	(33.00)	34.50	102.00	169.50	237.00
	\$ 14.00	(153.00)	(83.00)	(13.00)	57.00	127.00	197.00	267.00
	\$ 14.50	(138.00)	(65.50)	7.00	79.50	152.00	224.50	297.00
\$ 15.00	(123.00)	(48.00)	27.00	102.00	177.00	252.00	327.00	

## RP 75% Coverage

		Yield (bu/acre)						
		30	35	40	45	50	55	60
Price (\$/bu)	\$ 10.00	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (53.12)	\$ (51.62)	\$ (30.00)	\$ 20.00
	\$ 10.50	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (53.12)	\$ (51.62)	\$ (2.50)	\$ 50.00
	\$ 11.00	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (53.12)	\$ (30.00)	\$ 25.00	\$ 80.00
	\$ 11.50	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (53.12)	\$ (5.00)	\$ 52.50	\$ 110.00
	\$ 12.00	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (40.00)	\$ 20.00	\$ 80.00	\$ 140.00
	\$ 12.50	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ (17.50)	\$ 45.00	\$ 107.50	\$ 170.00
	\$ 13.00	\$ (57.63)	\$ (56.13)	\$ (54.63)	\$ 5.00	\$ 70.00	\$ 135.00	\$ 200.00
	\$ 13.50	\$ (57.63)	\$ (56.13)	\$ (40.00)	\$ 27.50	\$ 95.00	\$ 162.50	\$ 230.00
	\$ 14.00	\$ (57.25)	\$ (55.75)	\$ (20.00)	\$ 50.00	\$ 120.00	\$ 190.00	\$ 260.00
	\$ 14.50	\$ (38.50)	\$ (37.00)	\$ 0.00	\$ 72.50	\$ 145.00	\$ 217.50	\$ 290.00
\$ 15.00	\$ (19.75)	\$ (18.25)	\$ 20.00	\$ 95.00	\$ 170.00	\$ 245.00	\$ 320.00	