Fayette and Tipton Row Crop Marketing Meeting: Crop Outlook

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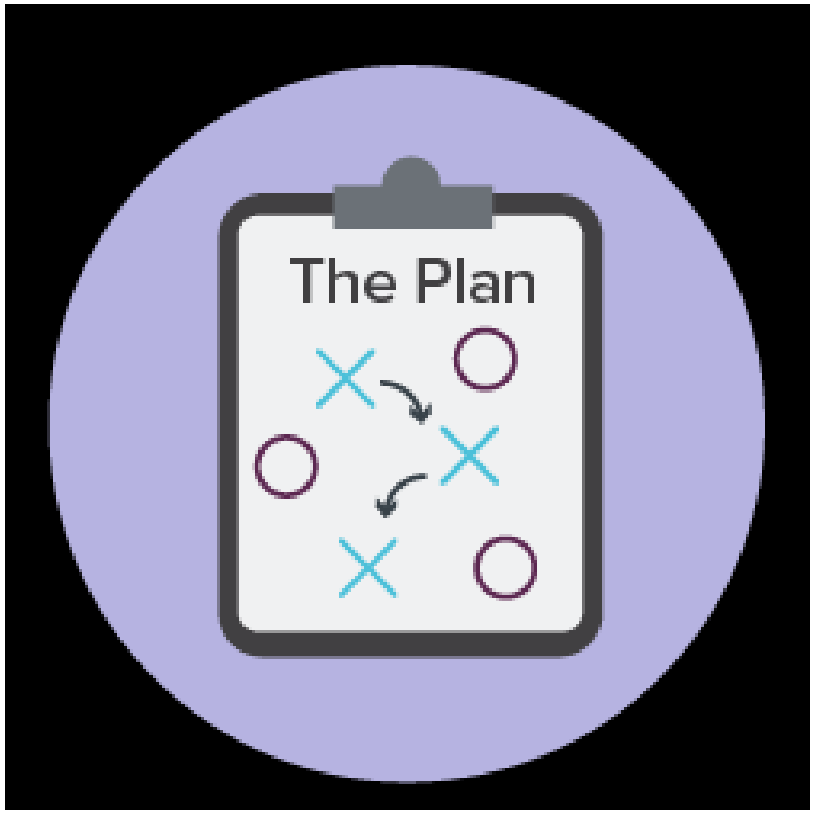
Overview

- Corn and Soybean Outlook
  - Supply and Demand
  - 2021 Price Projections
  - Weather Comments

- Marketing Plans
  - Budgets
  - Basis Trends
  - Pre-Harvest and Post-Harvest Plans

- Closing Comments



Outlook

CORN

Factors Effecting Supply for Corn

Positive for Prices

- Tight ending stocks / low stocks-to-use ratios.
- High prices for many crops make acreage decisions competitive and regional.
- Concerns in South America (second crop corn).

Negative/Uncertain for Prices

- Planted acres 2021
- 2021 weather – can we grow our way out of a rally in one production cycle?
- Added acres/global production regions - high prices often cure high prices.
- Rising input costs.
- Near record long managed money positions in corn, cotton, soybean, and wheat futures.

Factors Effecting Demand for Corn

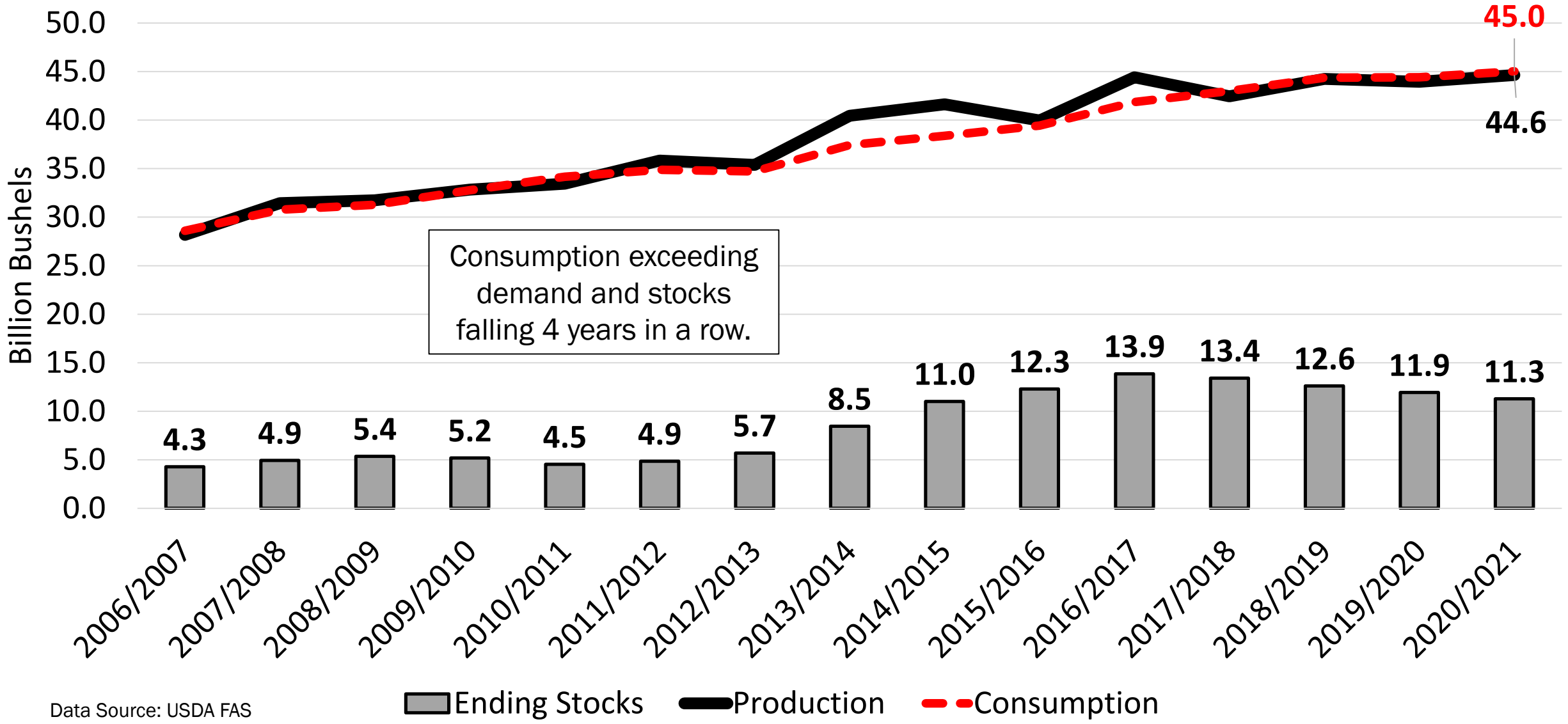
Positive for Prices

- Record US beef, pork, and broiler production forecast for 2021.
- Ethanol bounce back (exports and carbon policy).
- Near 5-year low in the US dollar index (stimulates export demand).
- Exports (China purchases) are projected to remain strong in 2021.
- Increased global meat consumption.

Negative/Uncertain for Crop Prices

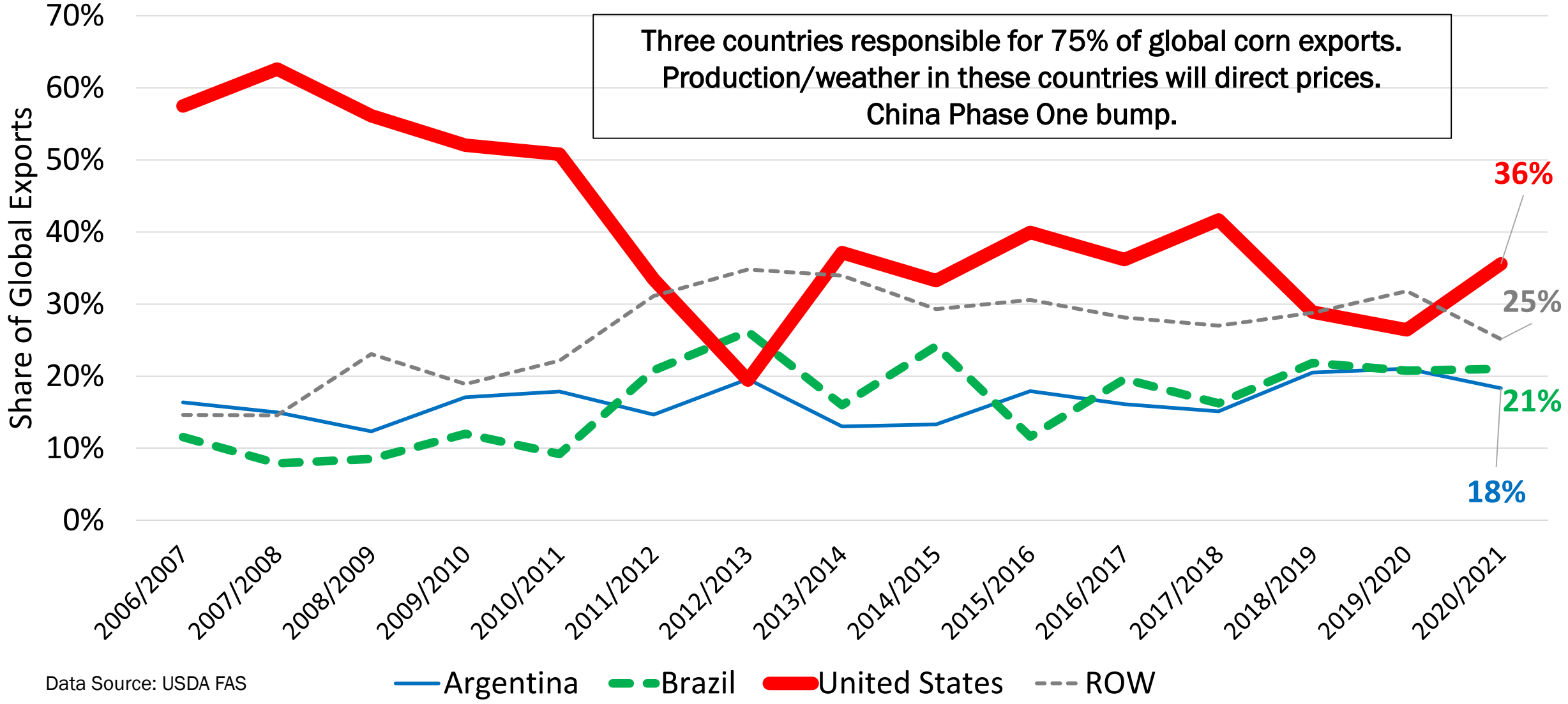
- COVID-19 uncertainty.
- African swine fever other animal infectious disease outbreaks.
- High prices can limit demand and result in substitution.
- China (policy, geopolitics etc.)
- Global economic uncertainty.

Global Corn Production, Consumption, and Ending Stocks, 2006-2020



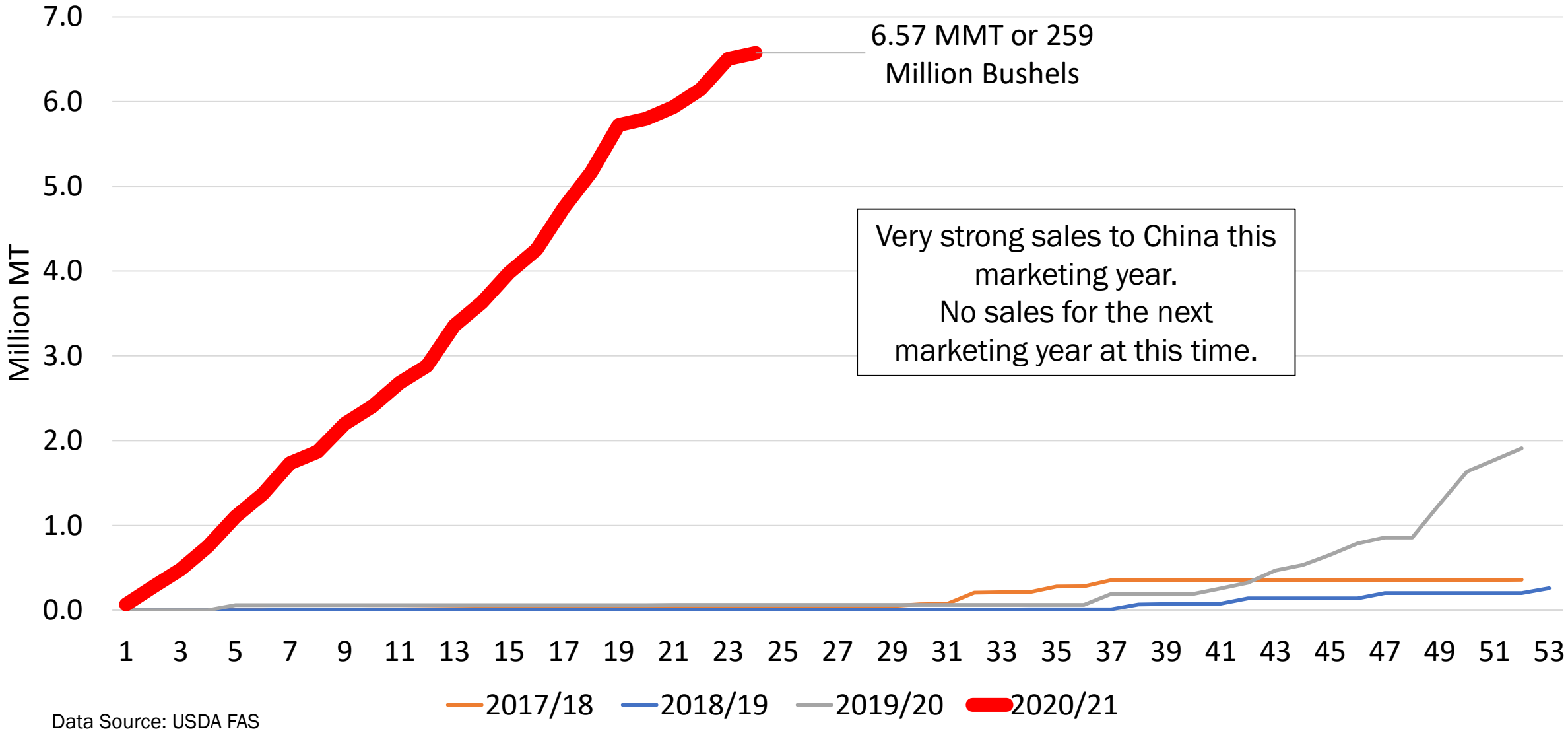
Data Source: USDA FAS

Share of Global Corn Exports, 2006/07 to 2020/21



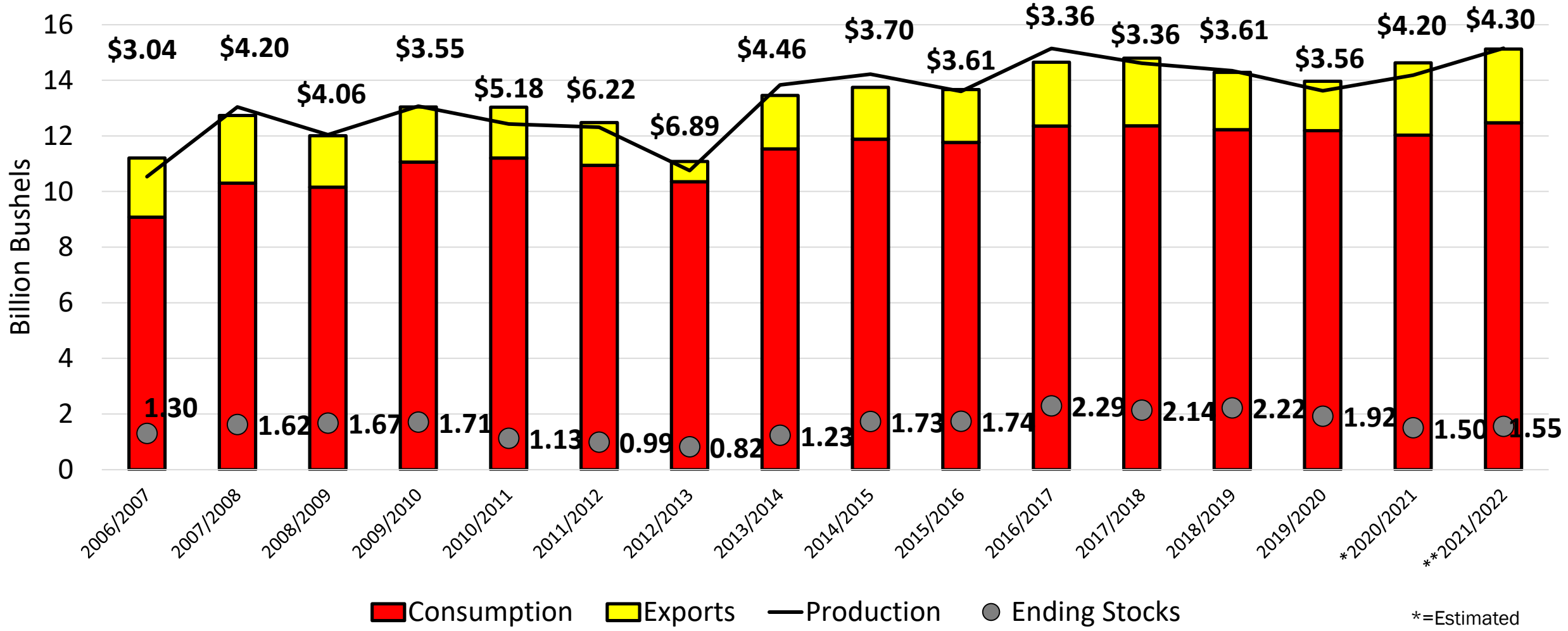
Data Source: USDA FAS

US Corn Exports to China, 2017/18 to 2020/21



Data Source: USDA FAS

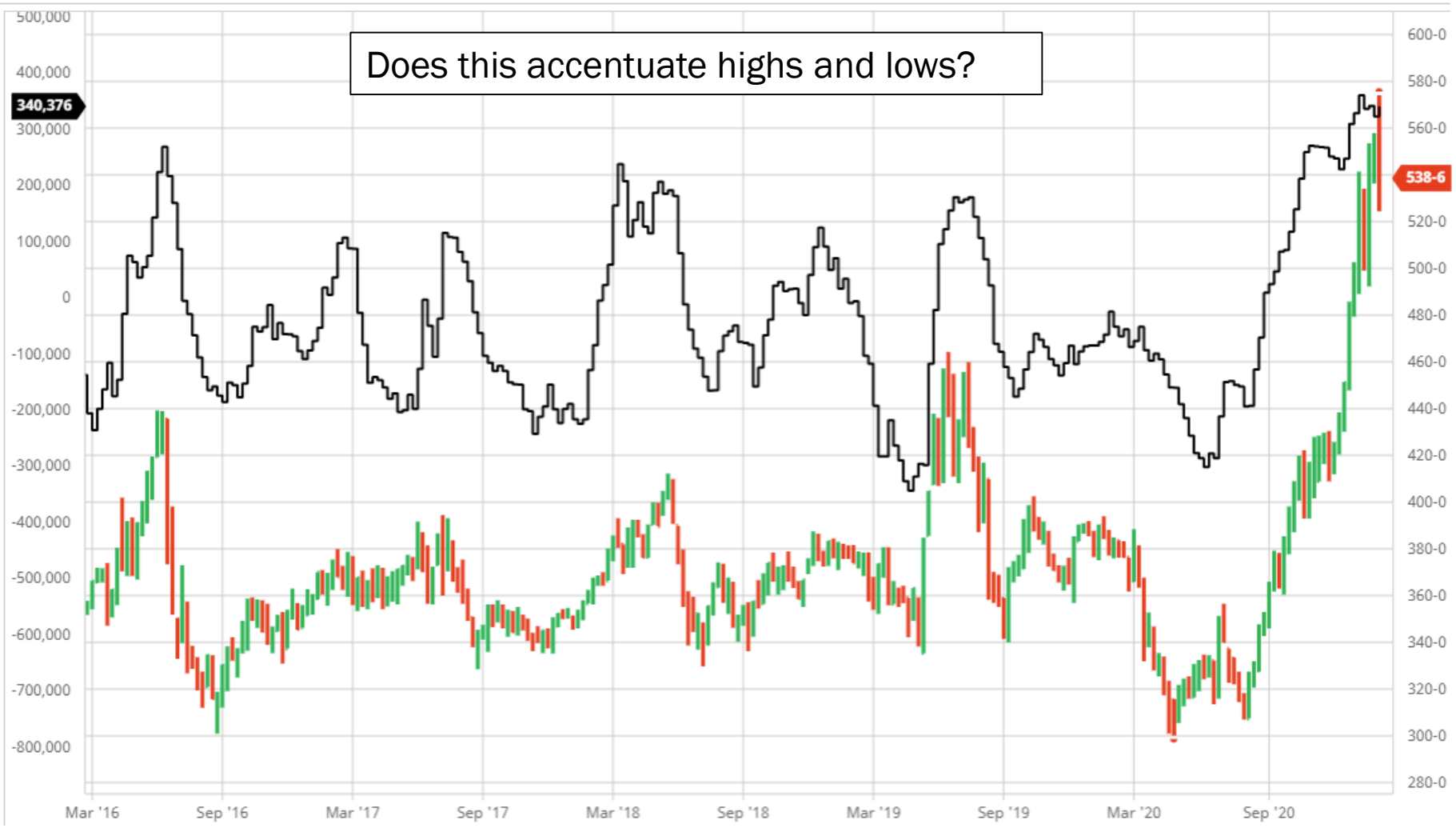
Corn - U.S. Production, Consumption, Exports, Ending Stocks, and MYA Price, 2006-2021



*=Estimated
**=Projected

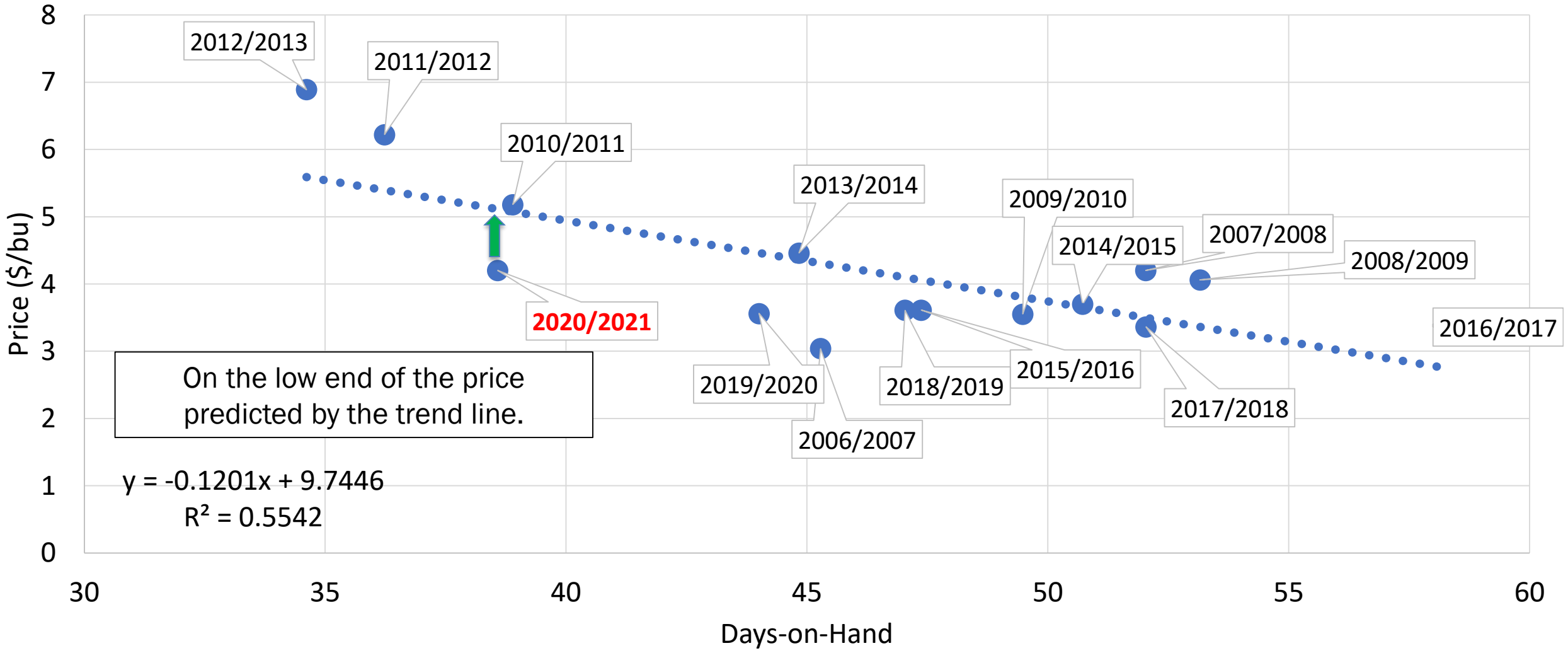
Data Source: USDA FAS and USDA NASS

Managed Money and Nearby Corn Futures Price

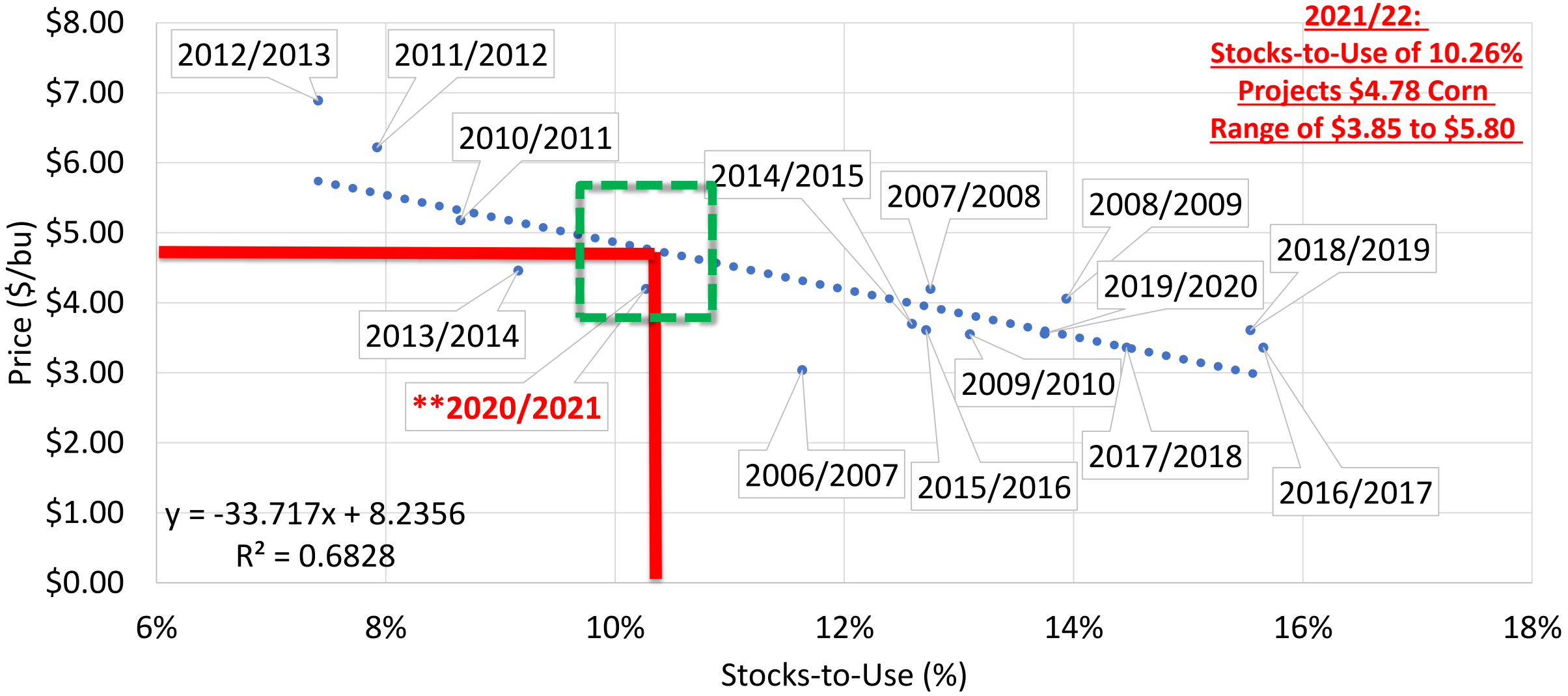


- About $88 billion in corn futures markets.
  - Managed money is long $7.7 billion.
- About $105 billion in soybean futures markets.
  - Managed money is long $9.2 billion.
- About $20 billion in cotton futures markets.
  - Managed money is long $5.4 billion.

World less China Days-on-Hand and US MYA Price, 2006-2020



Corn- U.S. Stocks-to-Use to MYA Price, 2006-2021

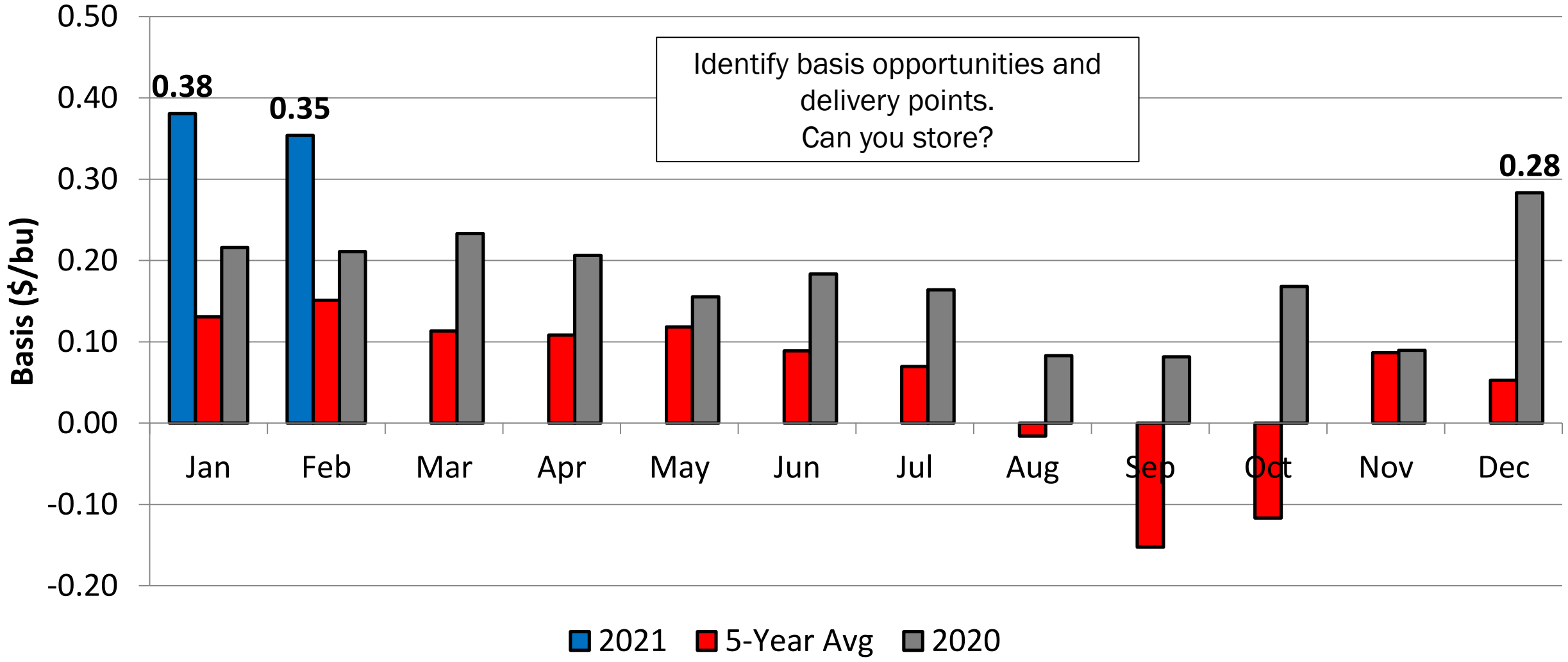


December Corn Futures Contract (January 1-Expiration) Compared to MYA Price

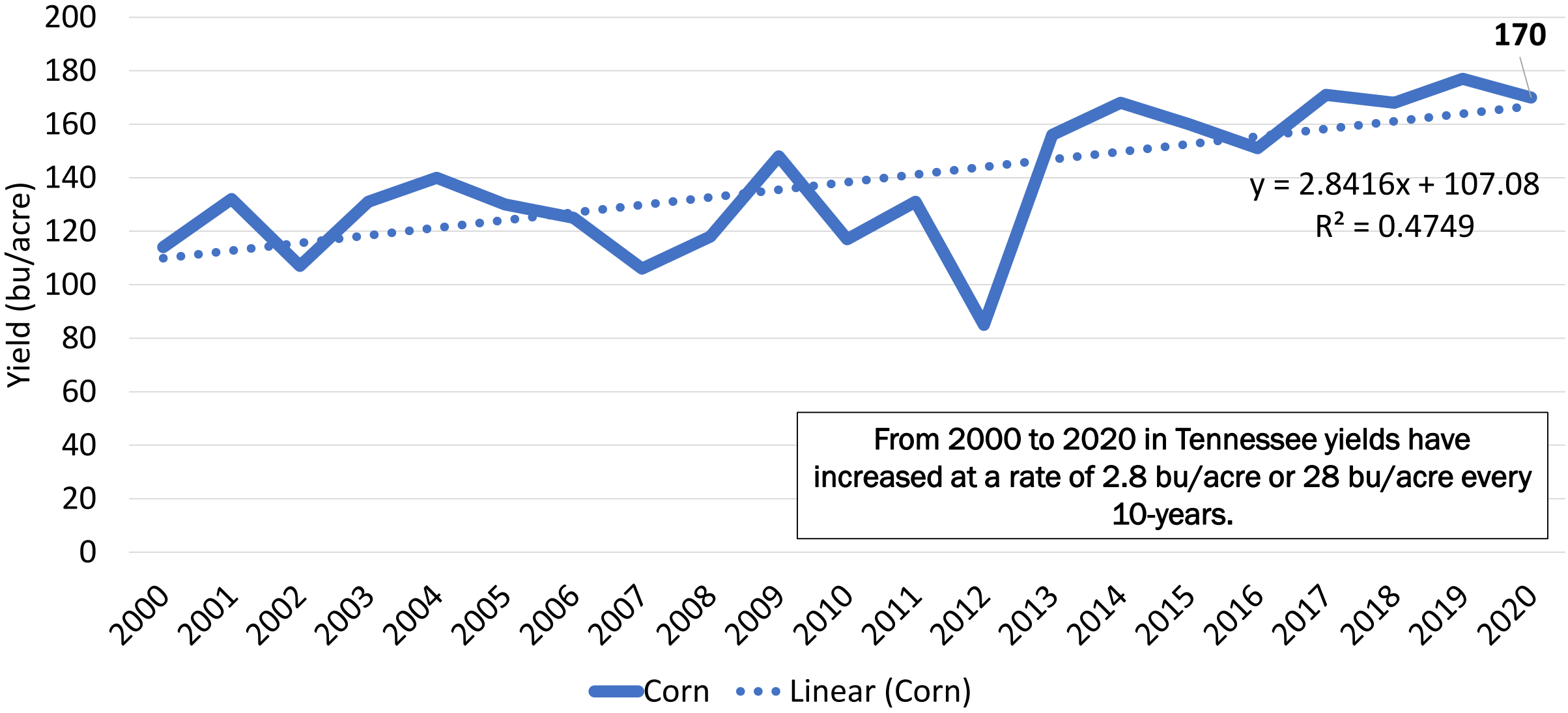
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Average	**$4.37**	**$6.43**	**$6.53**	**$5.07**	**$4.20**	**$3.92**	**$3.68**	**$3.75**	**$3.84**	**$3.97**	**$3.68**	**$4.49**
Min	$3.44	$5.42	$5.05	$4.12	$3.21	$3.58	$3.16	$3.36	$3.43	$3.54	$3.20	$4.30
Max	$5.90	$7.75	$8.39	$5.94	$5.13	$4.52	$4.49	$4.15	$4.27	$4.69	$4.27	$4.67
MYA	**$5.18**	**$6.22**	**$6.89**	**$4.46**	**$3.70**	**$3.61**	**$3.36**	**$3.36**	**$3.61**	**$3.56**	**$4.20**	**$4.30**

- Examine how the MYA price compares to the harvest futures contract average price and price range.
- 2010-2020 average price range $1.63 (max-min).
- Make basis adjustments to determine reasonable cash price estimates.

Tennessee Mississippi River Average Monthly Corn Basis (Elevators and Barge Points), 5-Year Average (2015-2019), 2020, and 2021

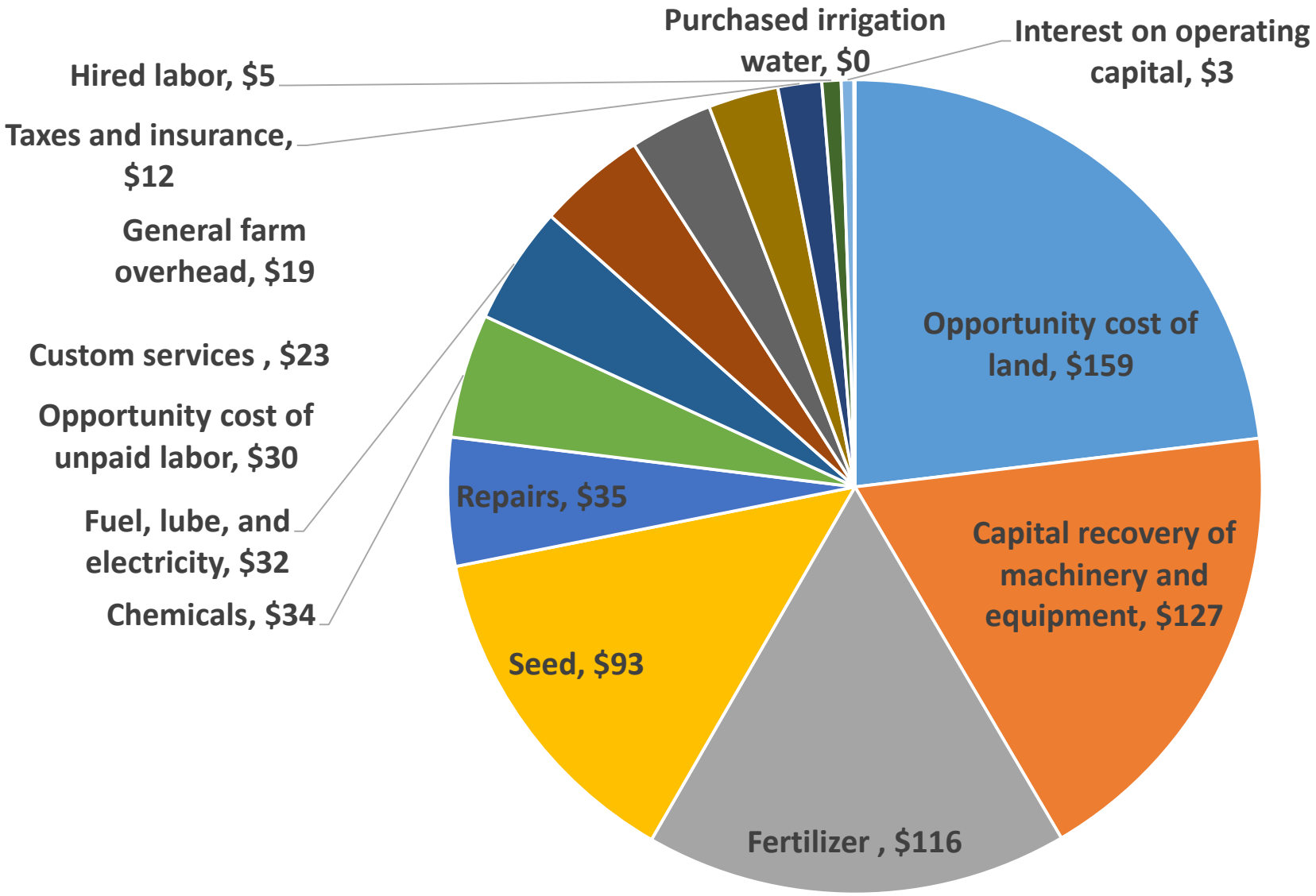


Tennessee Average Corn Yield, 2000-2020



From 2000 to 2020 in Tennessee yields have increased at a rate of 2.8 bu/acre or 28 bu/acre every 10-years.

Corn: Estimated Cost of Production ($690/acre)



- Production costs vary tremendously from operation-to-operation and field-to-field.
- The key is to know <u>your</u> cost of production (the more accurate the better.
- Ensure input cost efficiency for key categories (land, equipment, seed and chemicals).

Source: USDA-ERS: Corn production costs

Corn - Net Return Table ($/acre) ($690/acre COP)

Price ($/bu)	Yield (bu/acre) 110	120	130	140	150	160	170	180	190	200	210
2.50	(415)	(390)	(365)	(340)	(315)	(290)	(265)	(240)	(215)	(190)	(165)
2.75	(388)	(360)	(333)	(305)	(278)	(250)	(223)	(195)	(168)	(140)	(113)
3.00	(360)	(330)	(300)	(270)	(240)	(210)	(180)	(150)	(120)	(90)	(60)
3.25	(333)	(300)	(268)	(235)	(203)	(170)	(138)	(105)	(73)	(40)	(8)
3.50	(305)	(270)	(235)	(200)	(165)	(130)	(95)	(60)	(25)	10	45
3.75	(278)	(240)	(203)	(165)	(128)	(90)	(53)	(15)	23	60	98
4.00	(250)	(210)	(170)	(130)	(90)	(50)	(10)	30	70	110	150
4.25	(223)	(180)	(138)	(95)	(53)	(10)	33	75	118	160	203
4.50	(195)	(150)	(105)	(60)	(15)	30	75	120	165	210	255
4.75	(168)	(120)	(73)	(25)	23	70	118	165	213	260	308
5.00	(140)	(90)	(40)	10	60	110	160	210	260	310	360
5.25	(113)	(60)	(8)	45	98	150	203	255	308	360	413
5.50	(85)	(30)	25	80	135	190	245	300	355	410	465
5.75	(58)	0	58	115	173	230	288	345	403	460	518
6.00	(30)	30	90	150	210	270	330	390	450	510	570
6.25	(3)	60	123	185	248	310	373	435	498	560	623

Outlook

SOYBEANS

Factors Effecting Supply for Soybeans

Positive for Prices

- Tight US and global ending stocks / low stocks-to-use ratios.
- High prices for many crops make acreage decisions competitive and regional.
- Reduced Argentina production.
- Limited number of export competitors.
- Brazil logistics / export market timing.

Negative/Uncertain for Prices

- Record Brazil production.
- Planted acres 2021
- 2021 weather – can we grow our way out of a rally in one production cycle?
- Added acres - high prices often cure high prices.

Factors Effecting Demand for Soybeans

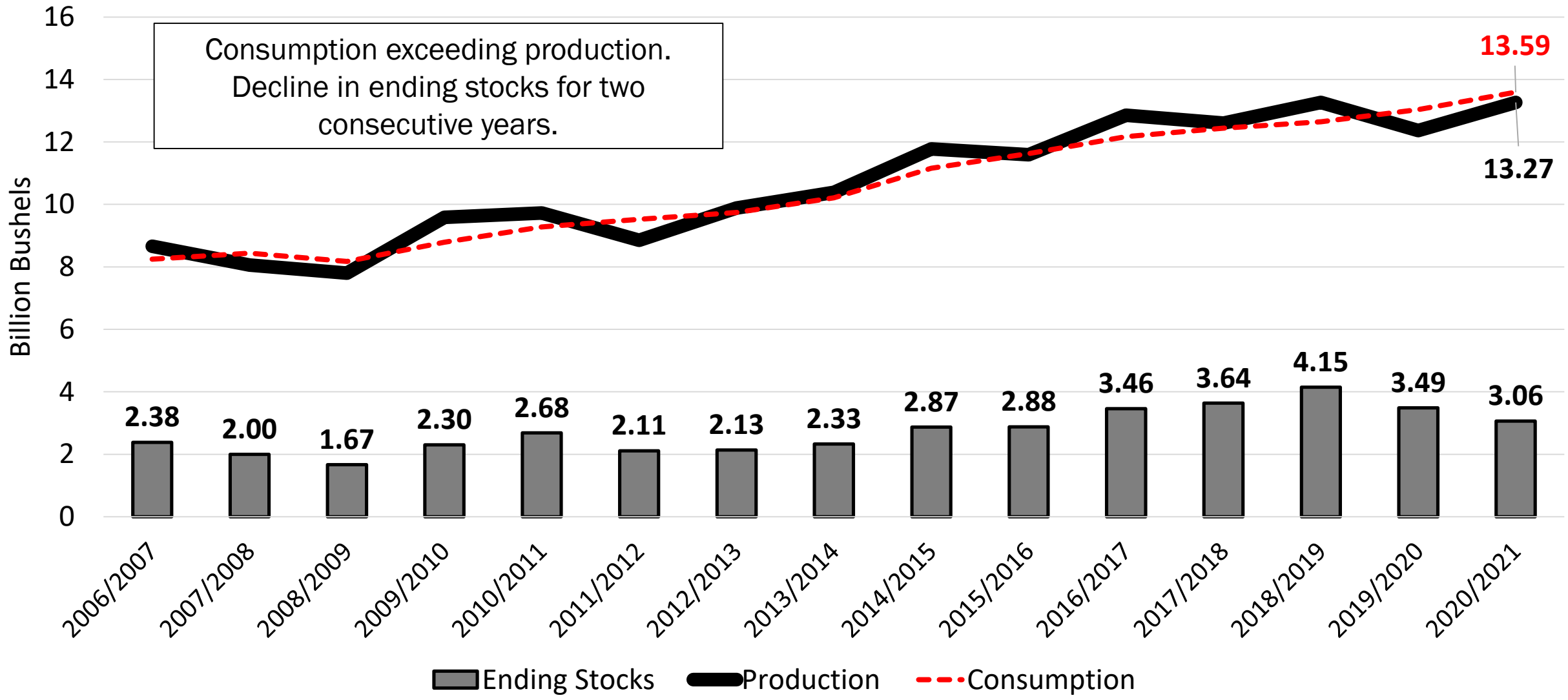
Positive for Prices

- Record beef, pork, broiler production forecast for 2021.
- Strong domestic crush.
- Near 5-year low in the US dollar index (stimulates export demand).
- Exports (China purchases) are projected to remain strong in 2021.
- Phase one commitments.
- Increased global protein demand.

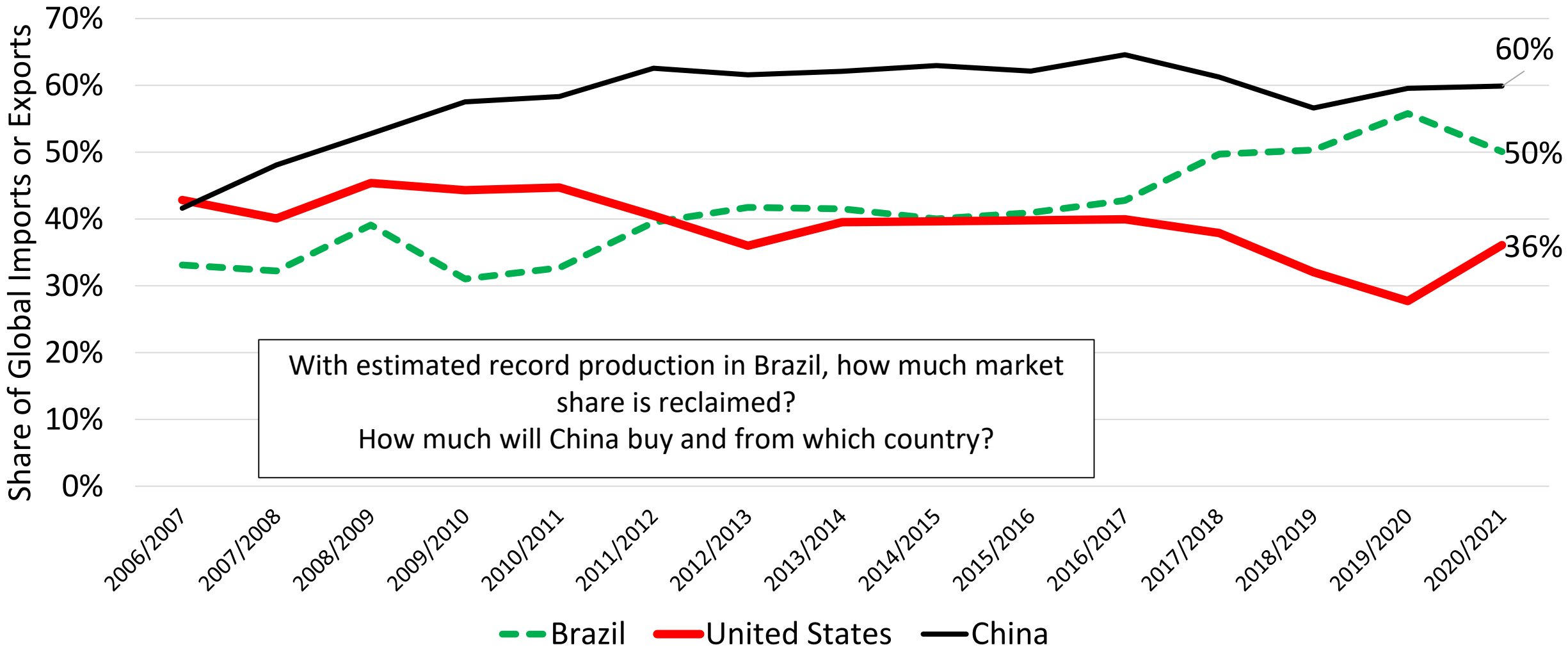
Negative/Uncertain for Crop Prices

- COVID-19 uncertainty.
- African swine fever, other animal infectious disease outbreaks.
- High prices can limit demand and result in substitution.
- China (policy, geopolitics etc.)
- Global / U.S. trade / policy uncertainty.

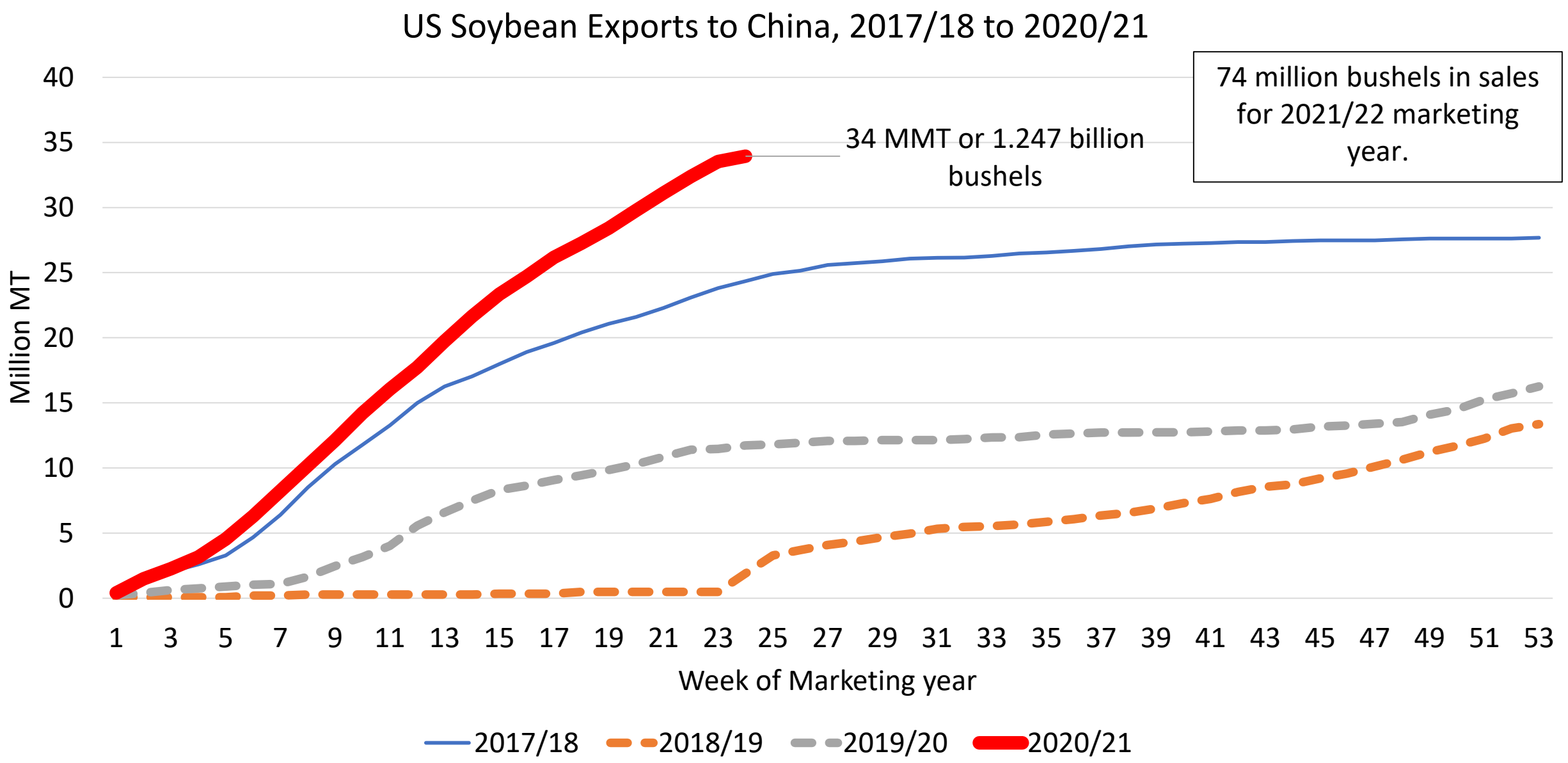
Global Soybean Production, Consumption, and Ending Stocks, 2006/07-2020/21



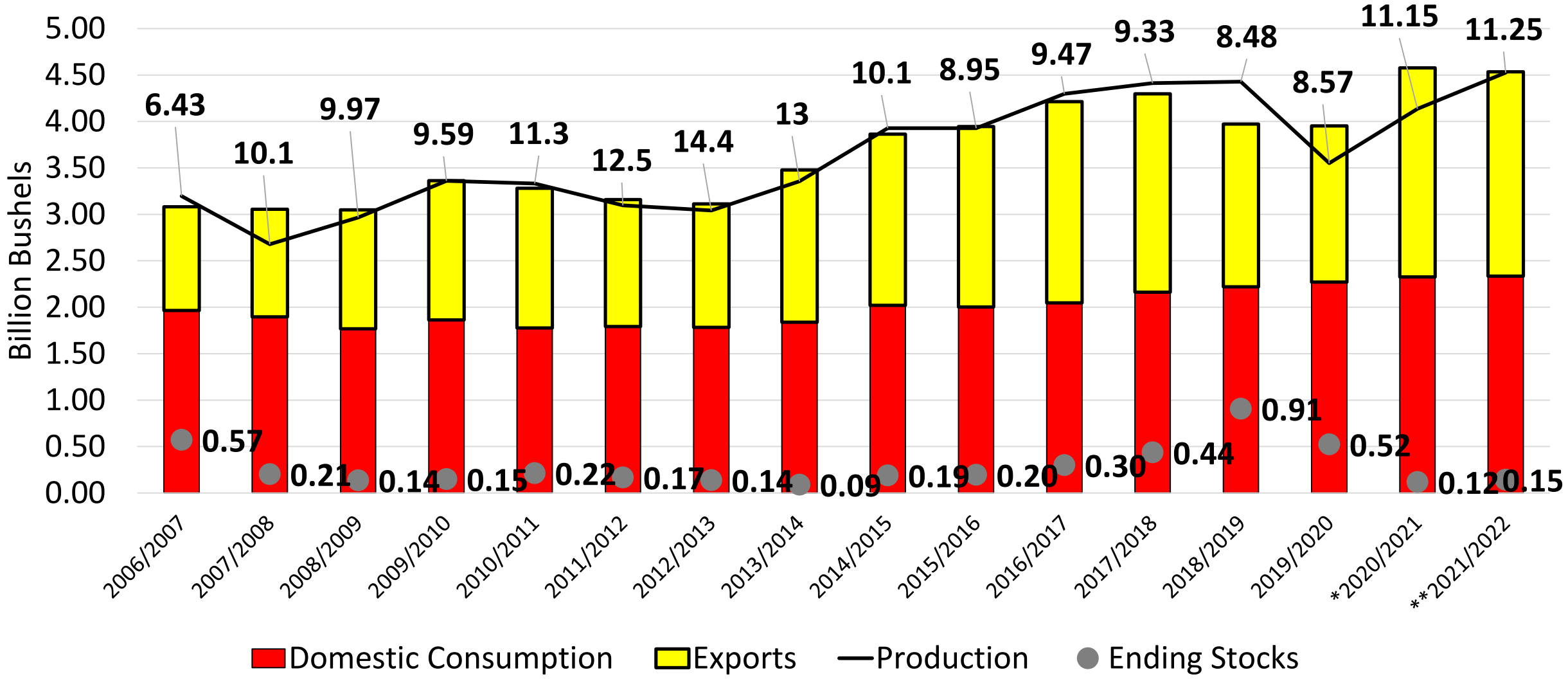
Share of Total Global Soybean Exports (Brazil & US) and Imports (China), 2006/07 to 2020/21



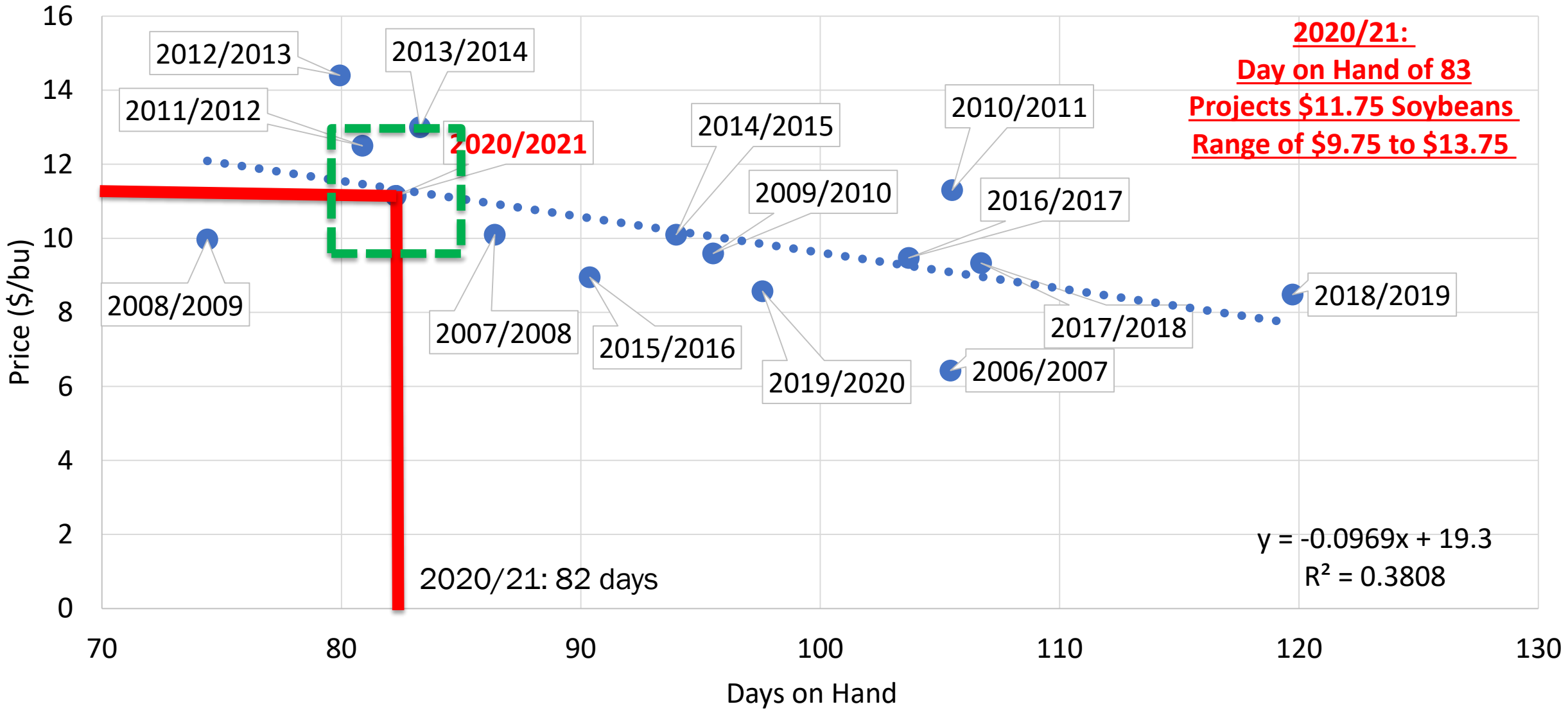
With estimated record production in Brazil, how much market share is reclaimed?
How much will China buy and from which country?


US Soybean Exports to China, 2017/18 to 2020/21
74 million bushels in sales for 2021/22 marketing year.
34 MMT or 1.247 billion bushels
Million MT
40
35
30
25
20
15
10
5
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
Week of Marketing year
2017/18
2018/19
2019/20
2020/21

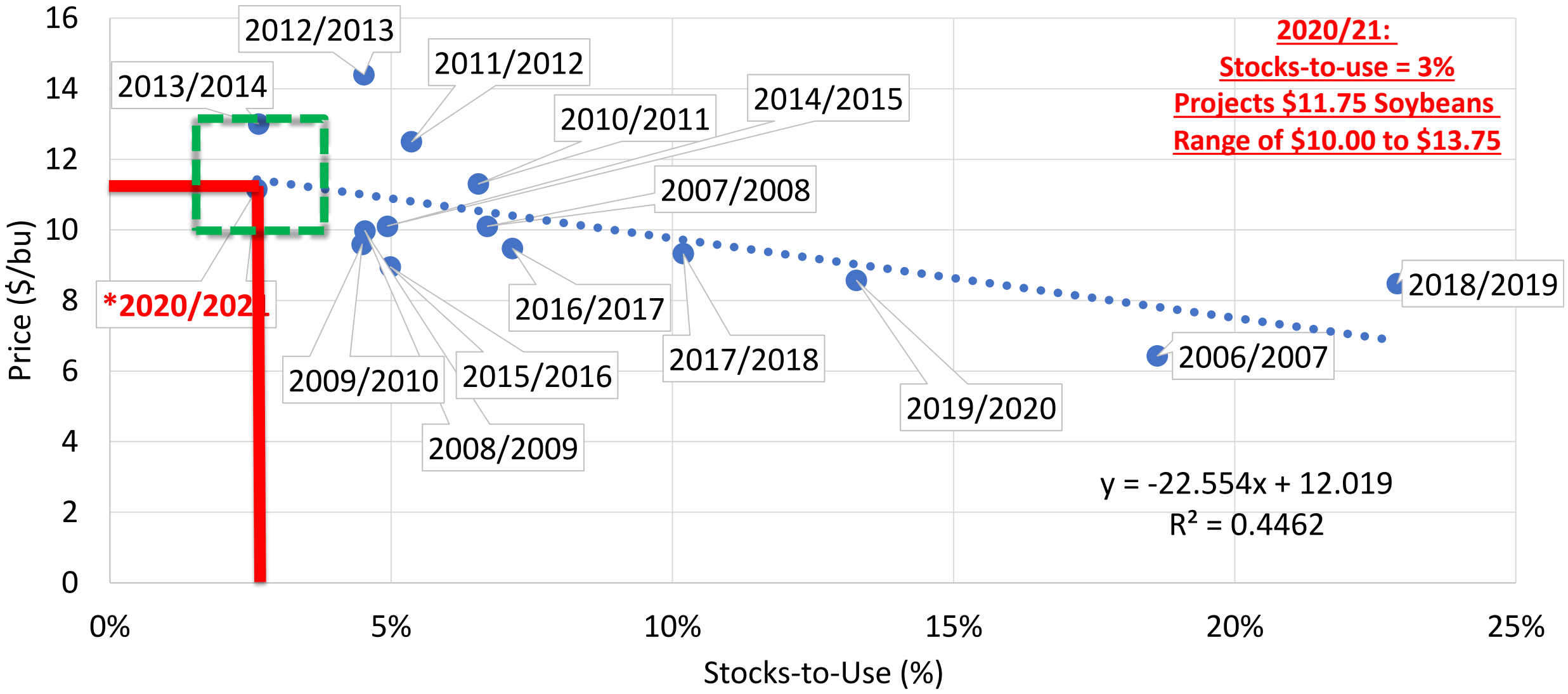
Soybeans- U.S. Production, Consumption, Exports, Ending Stocks and MYA Price, 2006/07 to 2020/21



Soybeans: Global Days-on-Hand to US MYA Price Relationship, 2006/07 to 2020/21



Soybean: Stocks-to-Use to Price, 2006/07 to 2020/21

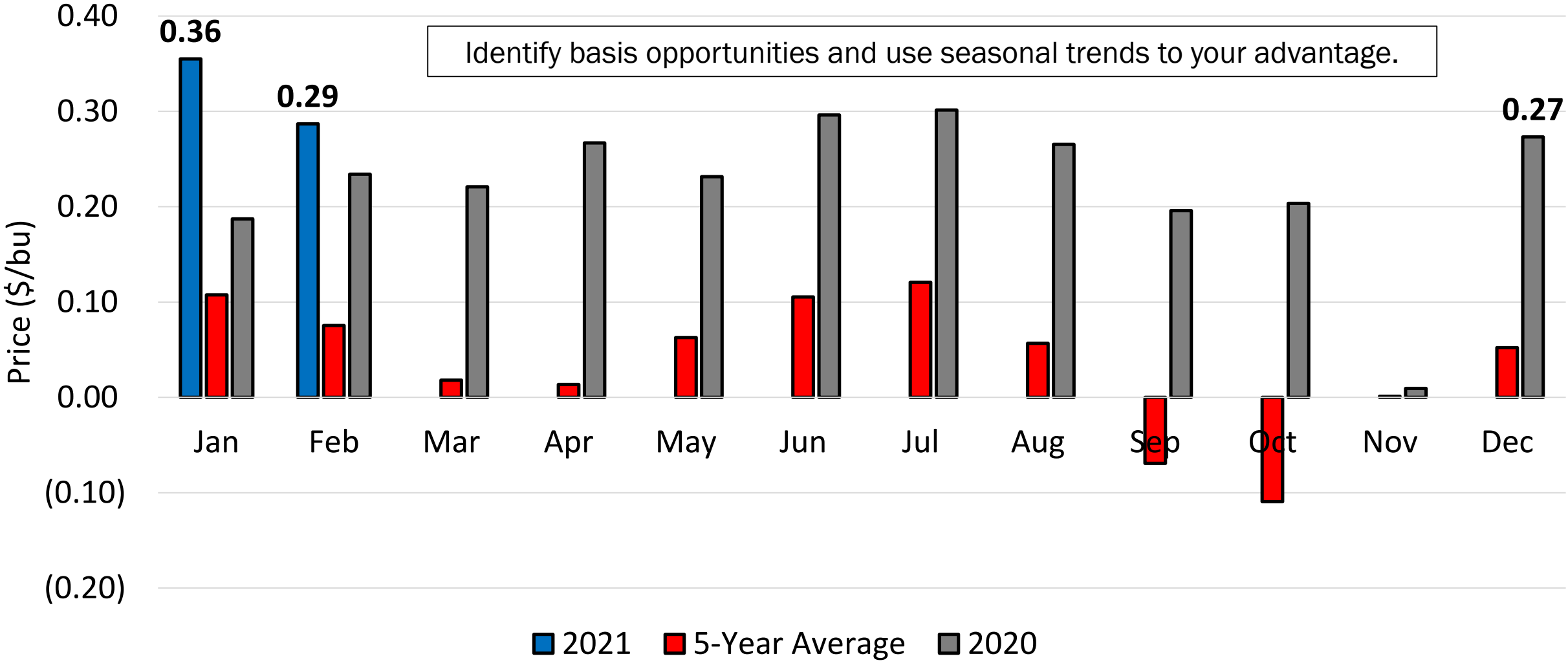


November Soybean Futures Contract (January 1-Expiration) Compared to MYA Price

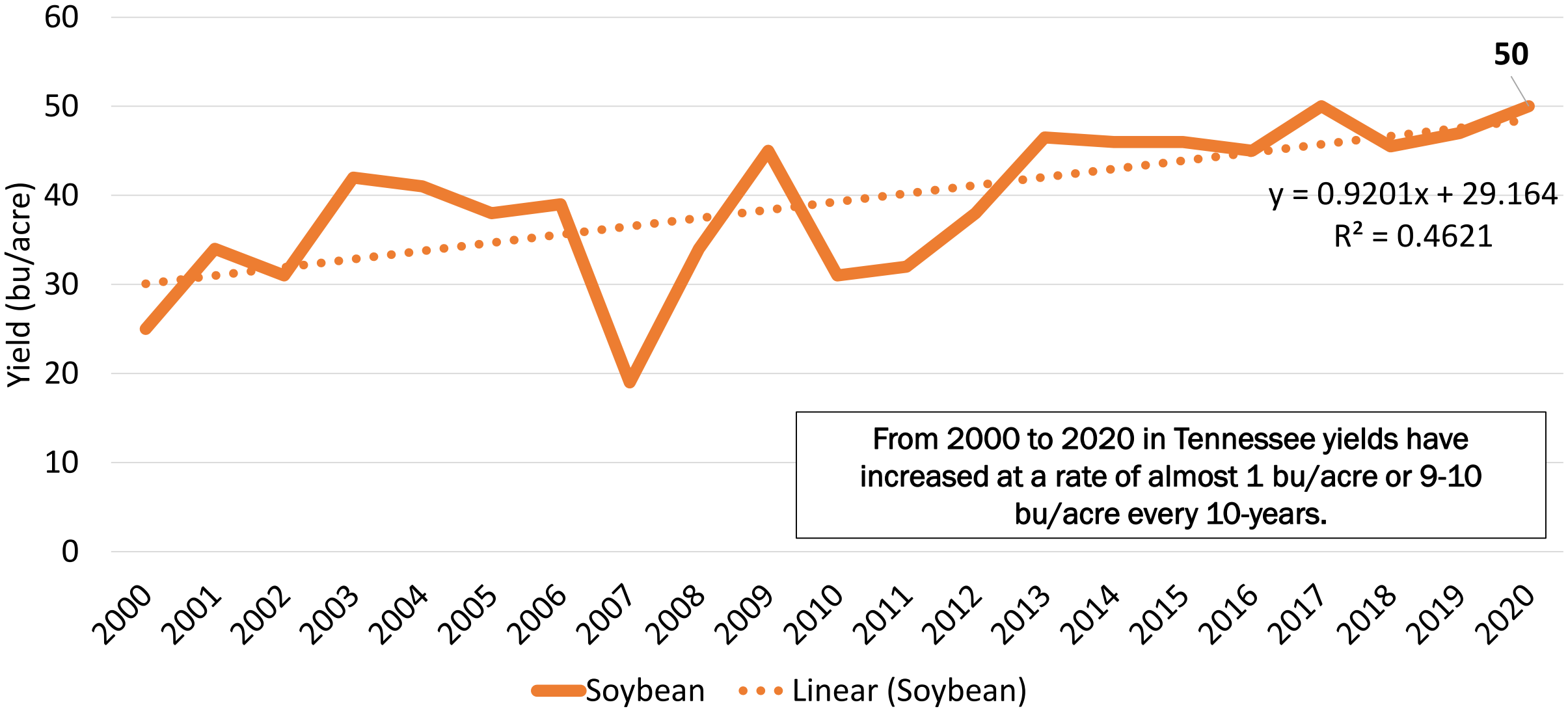
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Average	**$9.95**	**$13.28**	**$14.31**	**$12.75**	**$11.14**	**$9.38**	**$9.78**	**$9.76**	**$9.46**	**$9.12**	**$9.27**	**$11.64**
Min	$8.94	$11.58	$11.70	$11.66	$9.10	$8.59	$8.70	$9.11	$8.14	$8.28	$8.39	$11.12
Max	$13.30	$14.58	$17.68	$13.96	$12.71	$10.39	$11.63	$10.43	$10.54	$9.64	$11.43	$12.01
MYA	**$11.30**	**$12.50**	**$14.40**	**$13.00**	**$10.10**	**$8.95**	**$9.47**	**$9.33**	**$8.48**	**$8.57**	**$11.15**	**$11.25**

- Examine how the MYA price compares to the harvest futures contract average price and price range.
- 2010-2020 average price range $2.92 (max-min).
- Make basis adjustments to determine reasonable cash price estimates.

Tennessee Average Monthly Soybean Basis (Elevators and Barge Points), 5-Year Average (2015-2019), 2020, and 2021

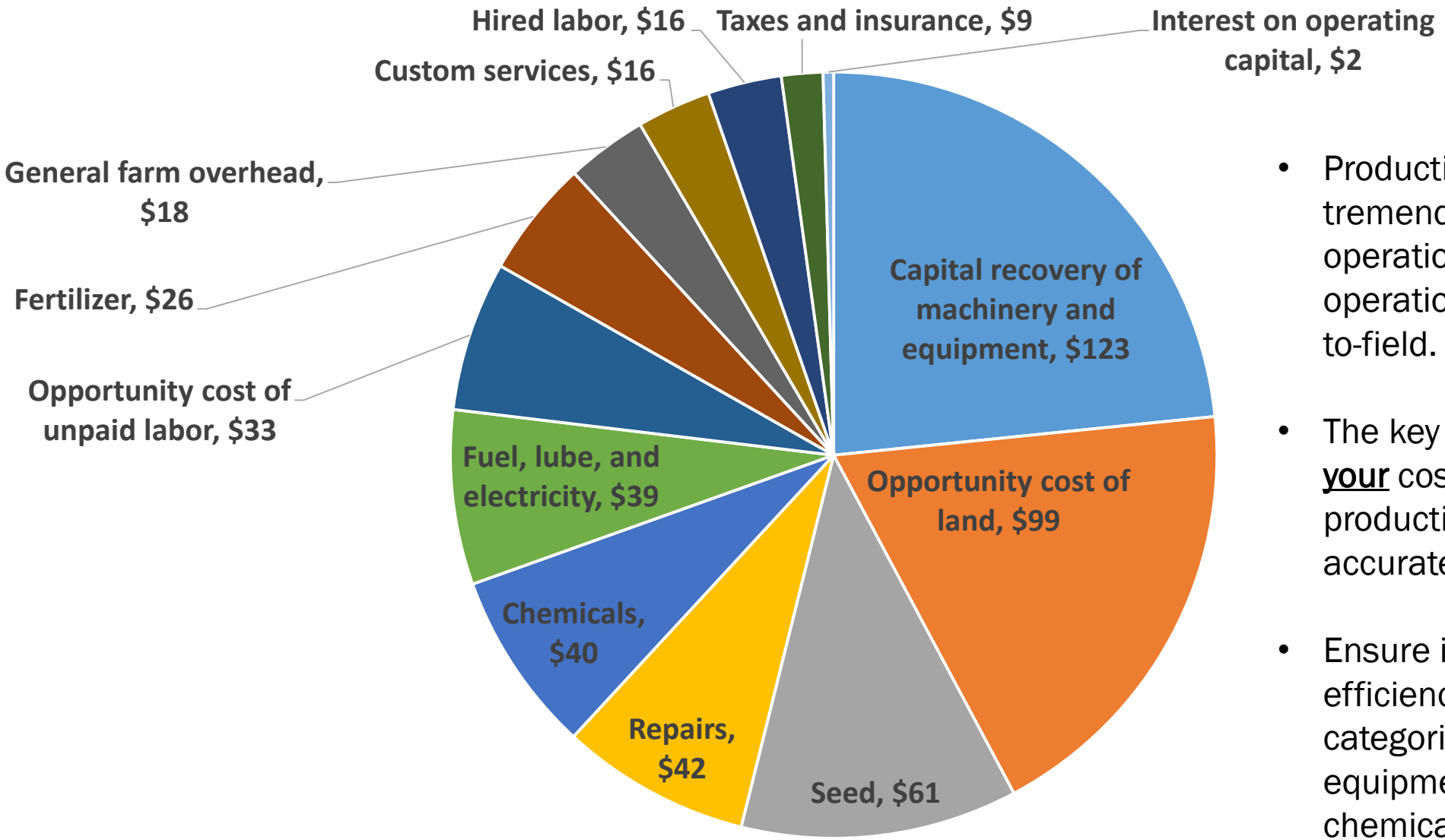


Tennessee Average Soybean Yield, 2000-2020



From 2000 to 2020 in Tennessee yields have increased at a rate of almost 1 bu/acre or 9-10 bu/acre every 10-years.

Soybean: Estimated Cost of Production $526/acre



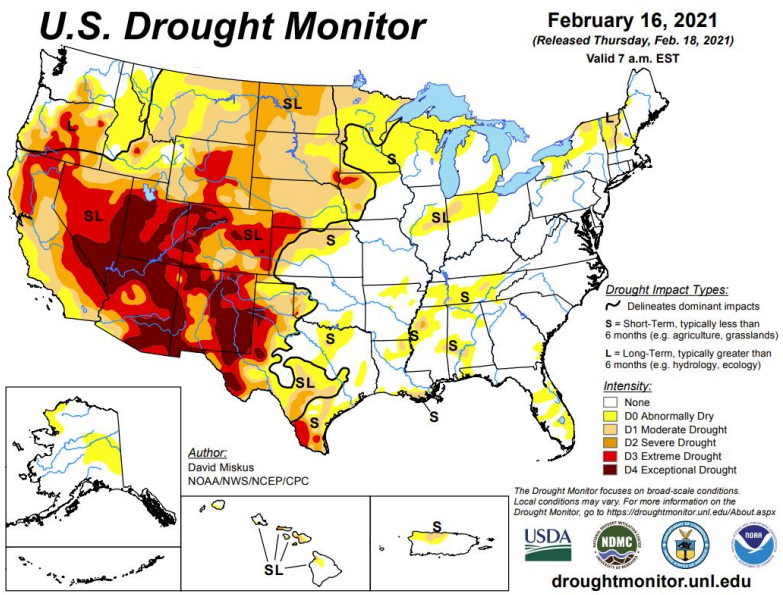
- Production costs vary tremendously from operation-to-operation and field-to-field.
- The key is to know <u>your</u> cost of production (the more accurate the better.
- Ensure input cost efficiency for key categories (land, equipment, seed and chemicals).

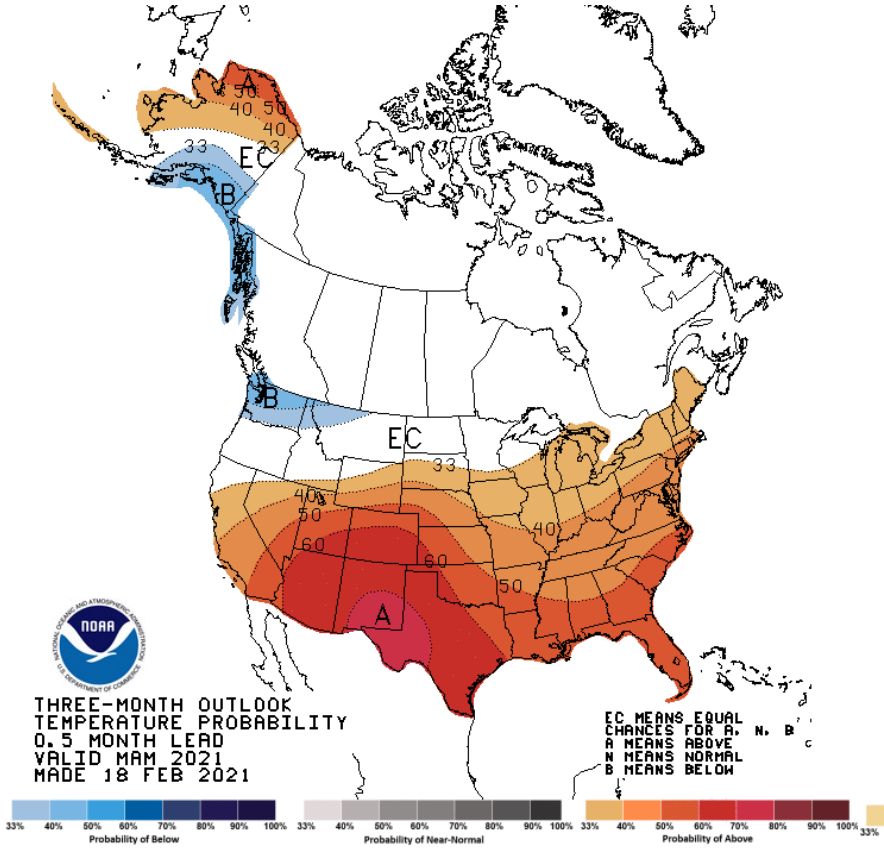
Source: USDA-ERS: Soybean production costs

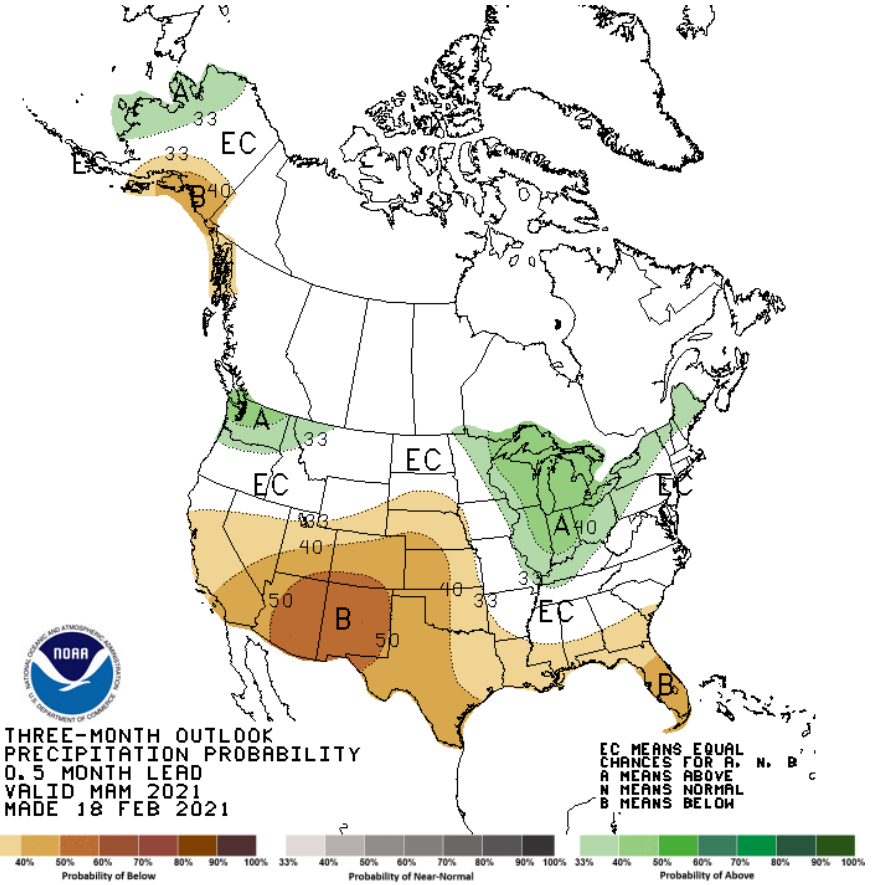
Soybean - Net Return Table ($/acre): $526/acre COP

Price ($/bu)	Yield (bu/acre) 25	30	35	40	45	50	55	60	65	70	75
9.00	(301)	(256)	(211)	(166)	(121)	(76)	(31)	14	59	104	149
9.25	(295)	(249)	(202)	(156)	(110)	(64)	(17)	29	75	122	168
9.50	(289)	(241)	(194)	(146)	(99)	(51)	(4)	44	92	139	187
9.75	(282)	(234)	(185)	(136)	(87)	(39)	10	59	108	157	205
10.00	(276)	(226)	(176)	(126)	(76)	(26)	24	74	124	174	224
10.25	(270)	(219)	(167)	(116)	(65)	(14)	38	89	140	192	243
10.50	(264)	(211)	(159)	(106)	(54)	(1)	52	104	157	209	262
10.75	(257)	(204)	(150)	(96)	(42)	12	65	119	173	227	280
11.00	(251)	(196)	(141)	(86)	(31)	24	79	134	189	244	299
11.25	(245)	(189)	(132)	(76)	(20)	37	93	149	205	262	318
11.50	(239)	(181)	(124)	(66)	(9)	49	107	164	222	279	337
11.75	(232)	(174)	(115)	(56)	3	62	120	179	238	297	355
12.00	(226)	(166)	(106)	(46)	14	74	134	194	254	314	374
12.25	(220)	(159)	(97)	(36)	25	87	148	209	270	332	393
12.50	(214)	(151)	(89)	(26)	37	99	162	224	287	349	412
12.75	(207)	(144)	(80)	(16)	48	112	175	239	303	367	430

Weather Outlook (Mar-May)







Crop Insurance Prices as at Feb 24, 2021

	Projected (Spring) Price	Price Volatility
Corn	$4.56 ($3.88)	0.23 (0.15)
Cotton	$0.83 ($0.68)	0.20 (0.14)
Soybean	$11.78 ($9.17)	0.19 (0.12)
Wheat	$5.54 ($4.86)	0.15 (0.16)

- Projected prices are: 17.5%, 22.1%, 28.5%, and 14% higher than last year.
- Premiums will be higher / revenue guarantees will be higher.
- Different in-season risk profile than last year.
- Work with a qualified crop insurance agent to determine the most suitable coverage for your operation.

Projected Planted Acres 2021

- Nationally
  - Soybeans 90 million acres (+6.9 million)
  - Corn 92 million acres (+1.2 million)
- Tennessee
  - Soybeans: 1.7 million (+50,000)
  - Corn: 965,000 (+95,000)
- Planting weather / prevented planting will influence crop allocations.
- Incentive to plant for most commodities.

MARKETING PLANS

Overview

- Corn and Soybean Outlook
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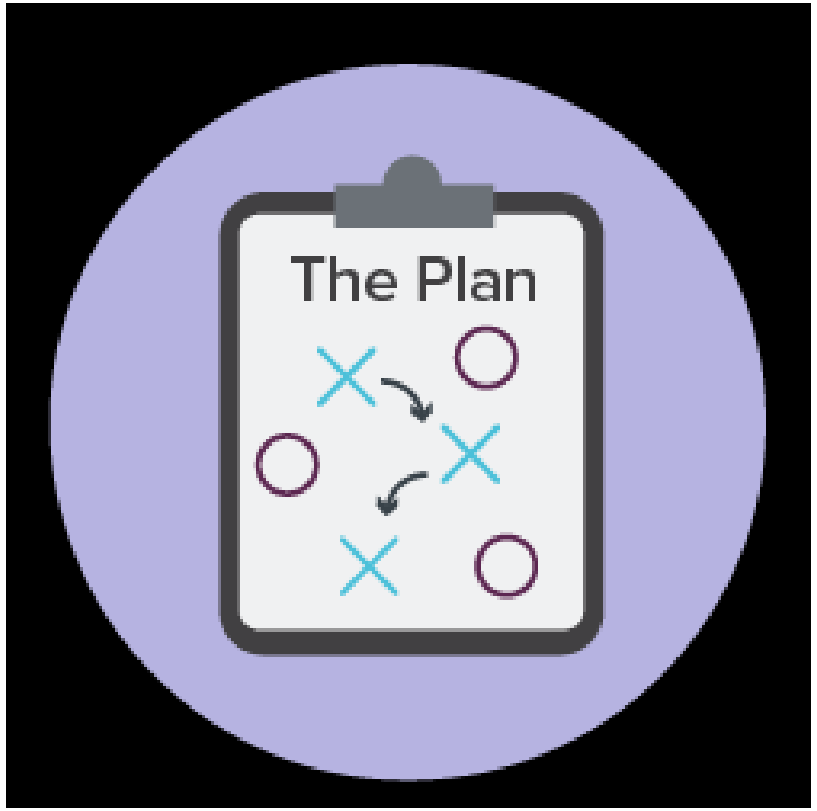
- Closing Comments



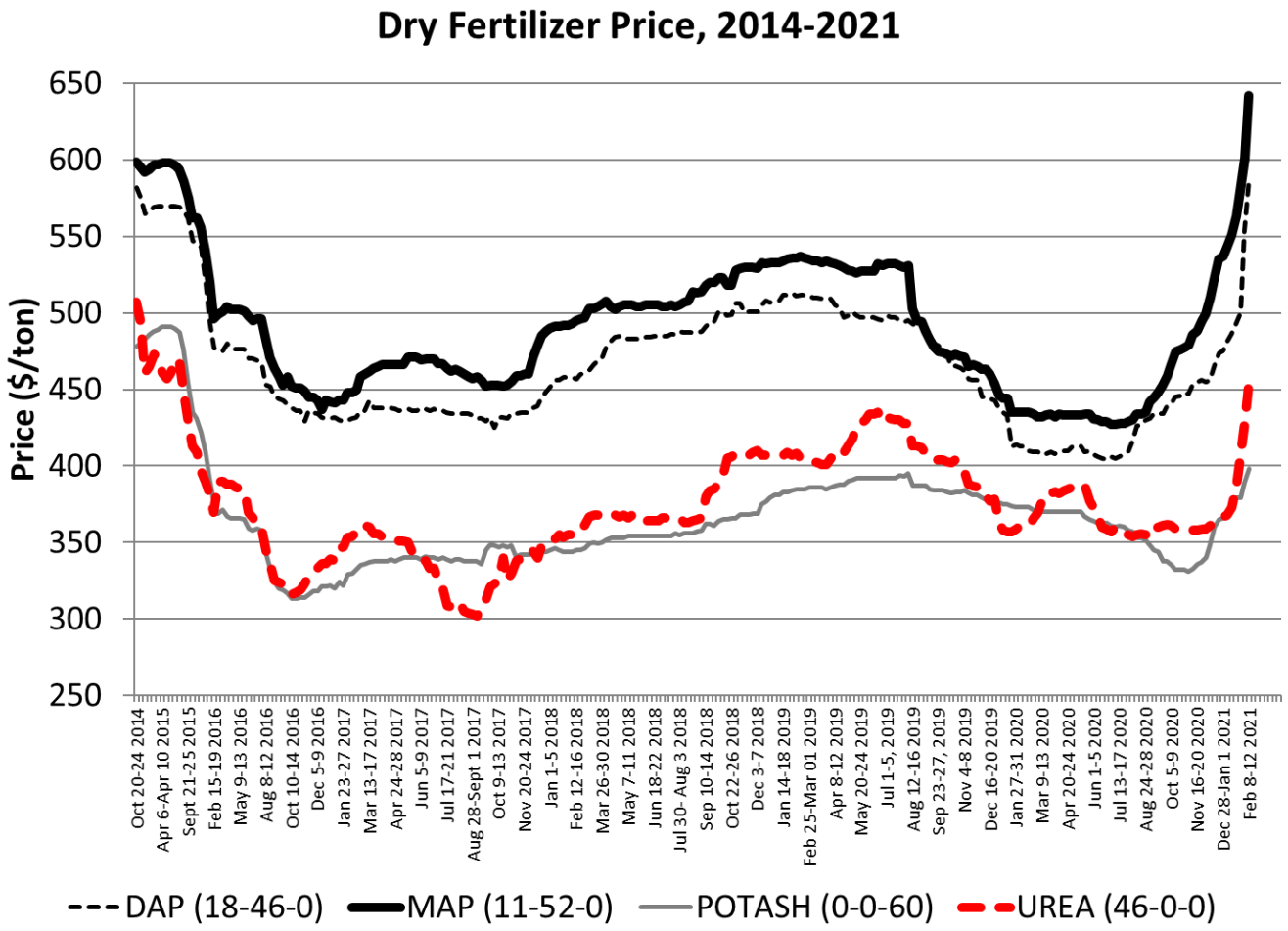
Budgets

- Before constructing a marketing plan, you must know your costs of production
- Your total expected costs of production along with your total expected production will provide your breakeven price
- Be sure to include family living expenses or any minimum income you are relying upon for expenses outside of your farm operations

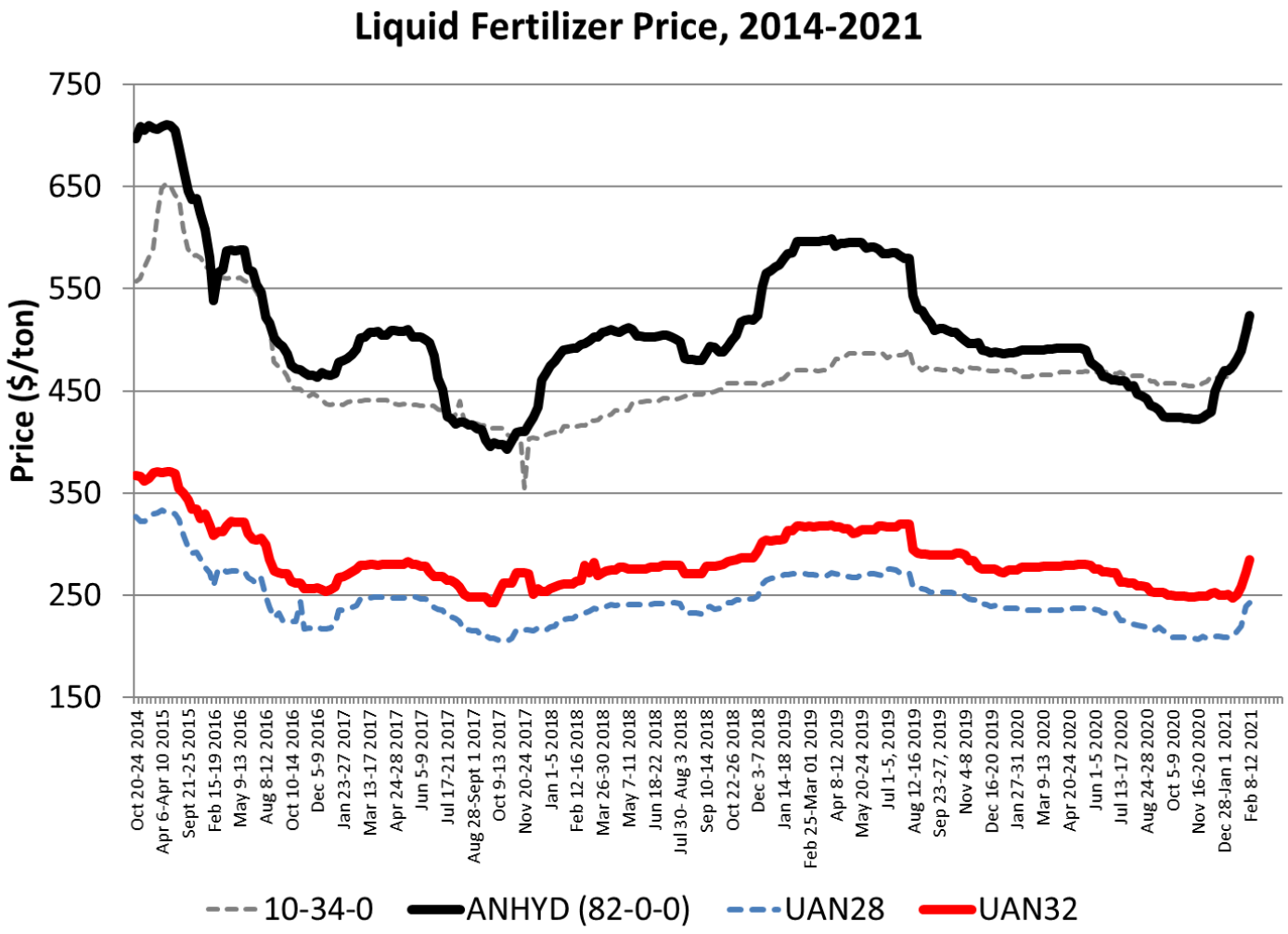
Budgets

2020 Corn, Conventional Tillage, Non-Irrigated Budget					
	Unit	Quantity	Price	Total	Your Farm
Revenue [1]			Gross Revenue ($/Acre)		
Corn	Bu/acre	161	$4.00	$644.00	_____
Government Payments	$/acre	1	$0.00	$0.00	_____
Other Revenue	$/acre	1	$0.00	$0.00	_____
			Total Revenue	**$644.00**	_____
Variable Expenses					
Seed[2]	Thous.	32	$3.20	$102.40	_____
Fertilizer & Lime (Table 1)[3]	Acre	1	$141.76	$141.76	_____
Chemical (Table 2)[4]	Acre	1	$35.65	$35.65	_____
Crop Scout or Consultant	Acre	1	$9.00	$9.00	_____
Repair & Maintenance (Table 3)[5]	Acre	1	$44.91	$44.91	_____
Fuel, Oil & Filter (Table 3)[5]	Acre	1	$22.69	$22.69	_____
Operator Labor (Table 3)[5]	Acre	1	$14.57	$14.57	_____
Crop Insurance[6]	Acre	1	$12.12	$12.12	_____
Machinery Rental	Acre	1	$0.00	$0.00	_____
Custom Work	Acre	1	$0.00	$0.00	_____
Drying (Fuel/Electric)	Bu	161	$0.00	$0.00	_____
Other	Acre	1	$0.00	$0.00	_____
Other	Acre	1	$0.00	$0.00	_____
Operating Interest[7]	%	$383.10	6.10%	$11.68	_____
			Total Variable Expenses	**$394.78**	_____
			Return Above Variable Expenses	**$249.22**	_____
Fixed Expenses					
Machinery[5]					
Capital Recovery (Table 3)	Acre	1	$112.63	$112.63	_____
Other Fixed Machinery Costs	Acre	1	$0.00	$0.00	_____
Property Taxes	Acre	1	$0.00	$0.00	_____
Cash Rent[8]	Acre	1	$99.00	$99.00	_____
Insurance (Non-Machinery)	Acre	1	$0.00	$0.00	_____
Management Labor	Acre	1	$18.00	$18.00	_____
Other	Acre	1	$0.00	$0.00	_____
			Total Fixed Expenses	**$229.63**	_____
			Total Expenses	**$624.41**	_____
			Return Above Specified Expenses	**$19.59**	_____

Budgets


Dry Fertilizer Price, 2014-2021
Price ($/ton)
650
600
550
500
450
400
350
300
250
Oct 20-24 2014
Apr 6-Apr 10 2015
Sept 21-25 2015
Feb 15-19 2016
May 9-13 2016
Aug 8-12 2016
Oct 10-14 2016
Dec 5-9 2016
Jan 23-27 2017
Mar 13-17 2017
Apr 24-28 2017
Jun 5-9 2017
Jul 17-21 2017
Aug 28-Sept 1 2017
Oct 9-13 2017
Nov 20-24 2017
Jan 1-5 2018
Feb 12-16 2018
Mar 26-30 2018
May 7-11 2018
Jun 18-22 2018
Jul 30- Aug 3 2018
Sep 10-14 2018
Oct 22-26 2018
Dec 3-7 2018
Jan 14-18 2019
Feb 25-Mar 01 2019
Apr 8-12 2019
May 20-24 2019
Jul 1-5, 2019
Aug 12-16 2019
Sep 23-27, 2019
Nov 4-8 2019
Dec 16-20 2019
Jan 27-31 2020
Mar 9-13 2020
Apr 20-24 2020
Jun 1-5 2020
Jul 13-17 2020
Aug 24-28 2020
Oct 5-9 2020
Nov 16-20 2020
Dec 28-Jan 1 2021
Feb 8-12 2021
DAP (18-46-0)
MAP (11-52-0)
POTASH (0-0-60)
UREA (46-0-0)

Budgets


Liquid Fertilizer Price, 2014-2021
Price ($/ton)
750
650
550
450
350
250
150
Oct 20-24 2014
Apr 6-Apr 10 2015
Sept 21-25 2015
Feb 15-19 2016
May 9-13 2016
Aug 8-12 2016
Oct 10-14 2016
Dec 5-9 2016
Jan 23-27 2017
Mar 13-17 2017
Apr 24-28 2017
Jun 5-9 2017
Jul 17-21 2017
Aug 28-Sept 1 2017
Oct 9-13 2017
Nov 20-24 2017
Jan 1-5 2018
Feb 12-16 2018
Mar 26-30 2018
May 7-11 2018
Jun 18-22 2018
Jul 30- Aug 3 2018
Sep 10-14 2018
Oct 22-26 2018
Dec 3-7 2018
Jan 14-18 2019
Feb 25-Mar 01 2019
Apr 8-12 2019
May 20-24 2019
Jul 1-5, 2019
Aug 12-16 2019
Sep 23-27, 2019
Nov 4-8 2019
Dec 16-20 2019
Jan 27-31 2020
Mar 9-13 2020
Apr 20-24 2020
Jun 1-5 2020
Jul 13-17 2020
Aug 24-28 2020
Oct 5-9 2020
Nov 16-20 2020
Dec 28-Jan 1 2021
Feb 8-12 2021
10-34-0
ANHYD (82-0-0)
UAN28
UAN32

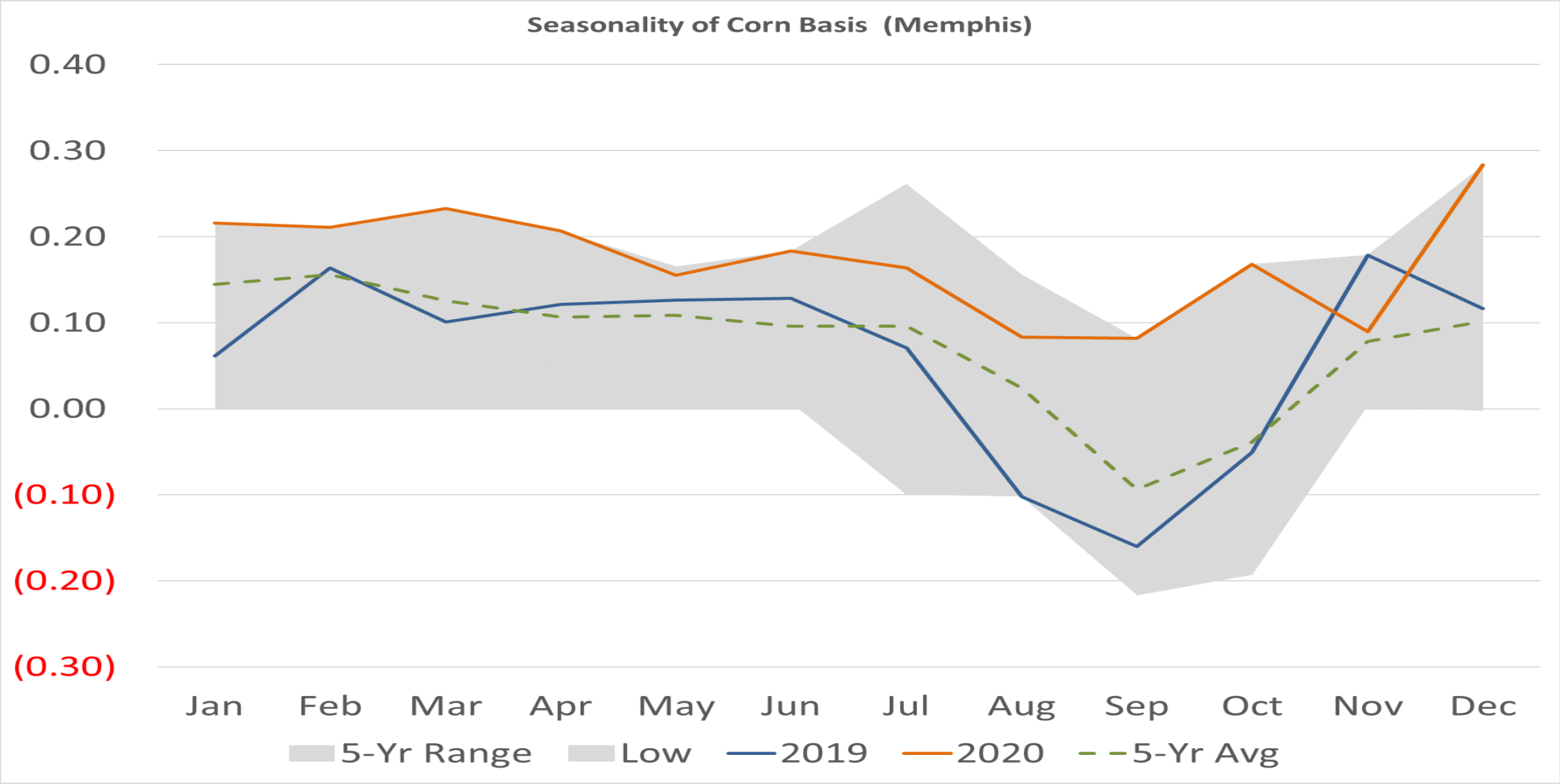
Budgets

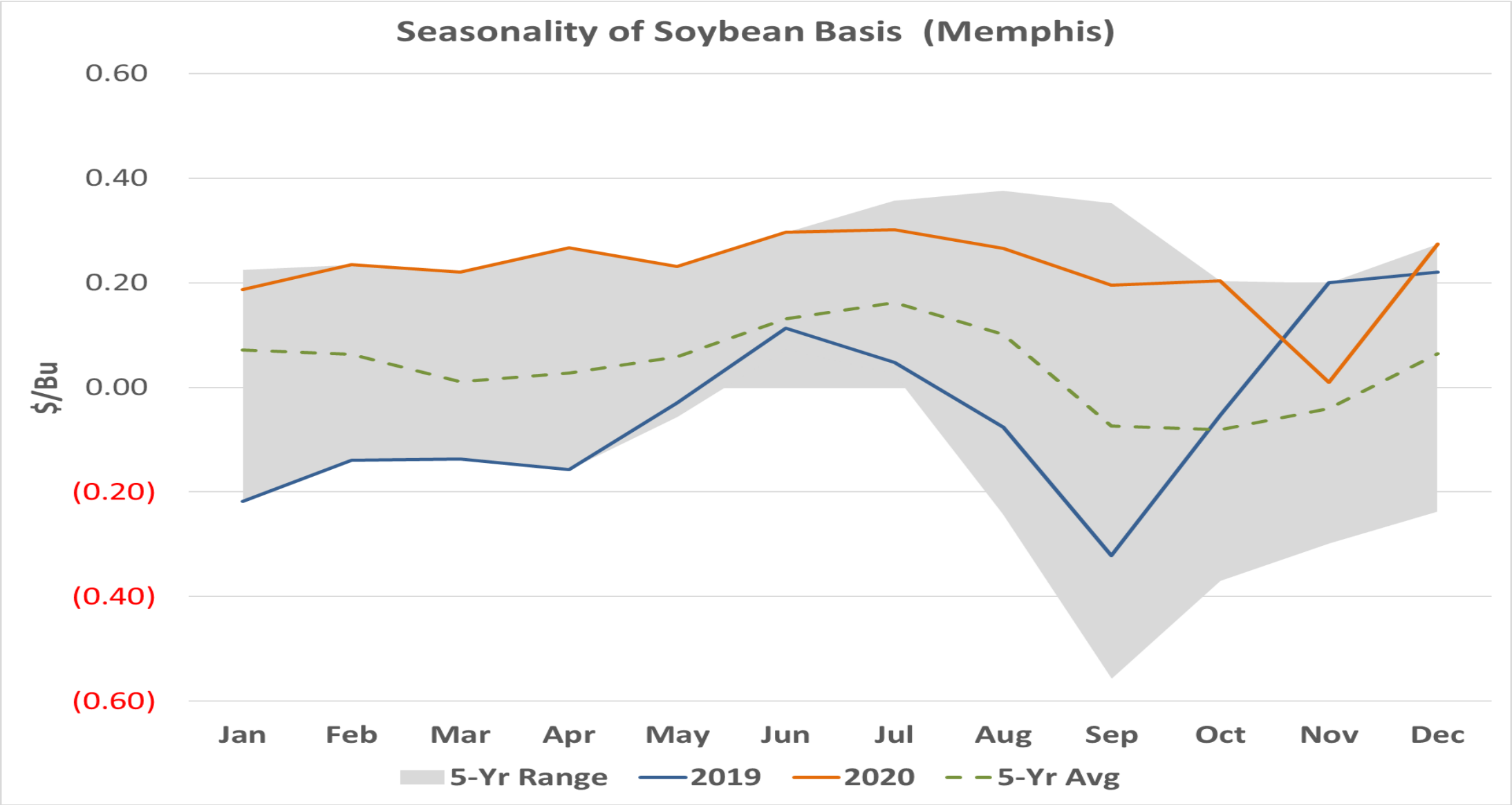
2020 Corn, Conventional Tillage, Non-Irrigated Budget

	Unit	Quantity	Price	Total	Your Farm
Revenue [1]			**Gross Revenue ($/Acre)**		
Corn	Bu/acre	161	$4.00	$644.00	_____
Government Payments	$/acre	1	$0.00	$0.00	_____
Other Revenue	$/acre	1	$0.00	$0.00	_____
			Total Revenue	**$644.00**	_____
Variable Expenses					
Seed[2]	Thous.	32	$3.20	$102.40	_____
Fertilizer & Lime (Table 1)[3]	Acre	1	$141.76	$141.76	_____
Chemical (Table 2)[4]	Acre	1	$35.65	$35.65	_____
Crop Scout or Consultant	Acre	1	$9.00	$9.00	_____
Repair & Maintenance (Table 3)[5]	Acre	1	$44.91	$44.91	_____
Fuel, Oil & Filter (Table 3)[5]	Acre	1	$22.69	$22.69	_____
Operator Labor (Table 3)[5]	Acre	1	$14.57	$14.57	_____
Crop Insurance[6]	Acre	1	$12.12	$12.12	_____
Machinery Rental	Acre	1	$0.00	$0.00	_____
Custom Work	Acre	1	$0.00	$0.00	_____
Drying (Fuel/Electric)	Bu	161	$0.00	$0.00	_____
Other		1	$0.00	$0.00	_____
Other		1	$0.00	$0.00	_____
Operating Interest[7]		$383.10	6.10%	$11.68	_____
			Total Variable Expenses	**$394.78**	_____
			Return Above Variable Expenses	**$249.22**	_____
Fixed Expenses					
Machinery[5]					
Capital Recovery (Table 3)		1	$112.63	$112.63	_____
Other Fixed Machinery Costs		1	$0.00	$0.00	_____
Property Taxes		1	$0.00	$0.00	_____
Cash Rent[8]		1	$99.00	$99.00	_____
Insurance (Non-Machinery)		1	$0.00	$0.00	_____
Management Labor		1	$18.00	$18.00	_____
Other		1	$0.00	$0.00	_____
			Total Fixed Expenses	**$229.63**	_____
			Total Expenses	**$624.41**	_____
			Return Above Specified Expenses	**$19.59**	_____

FOR ILLUSTRATIVE PURPOSES ONLY

https://arec.tennessee.edu/extension/budgets/


Seasonality of Corn Basis (Memphis)
0.40
0.30
0.20
0.10
0.00
(0.10)
(0.20)
(0.30)
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
5-Yr Range
Low
2019
2020
5-Yr Avg


Seasonality of Soybean Basis (Memphis)
0.60
0.40
0.20
0.00
(0.20)
(0.40)
(0.60)
$/Bu
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
5-Yr Range
2019
2020
5-Yr Avg

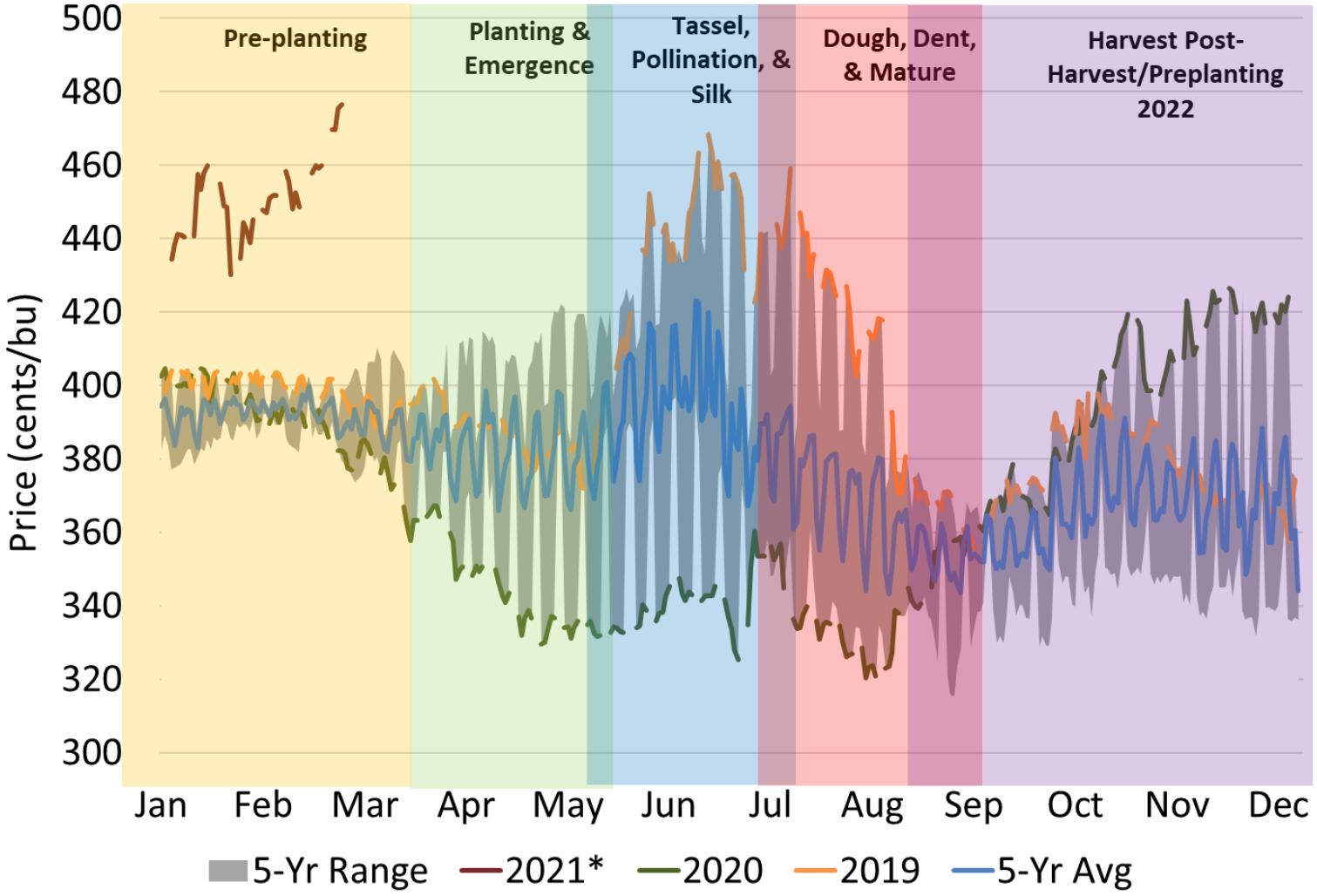
Pre-Harvest Plans

- Use seasonal trends to begin pricing next year's crop
- Set price targets and deadlines at regular intervals
- Use breakeven (or risk-tolerance) as your minimum price
- Use historical data to determine a reasonable maximum price
- Be familiar with various pricing tools

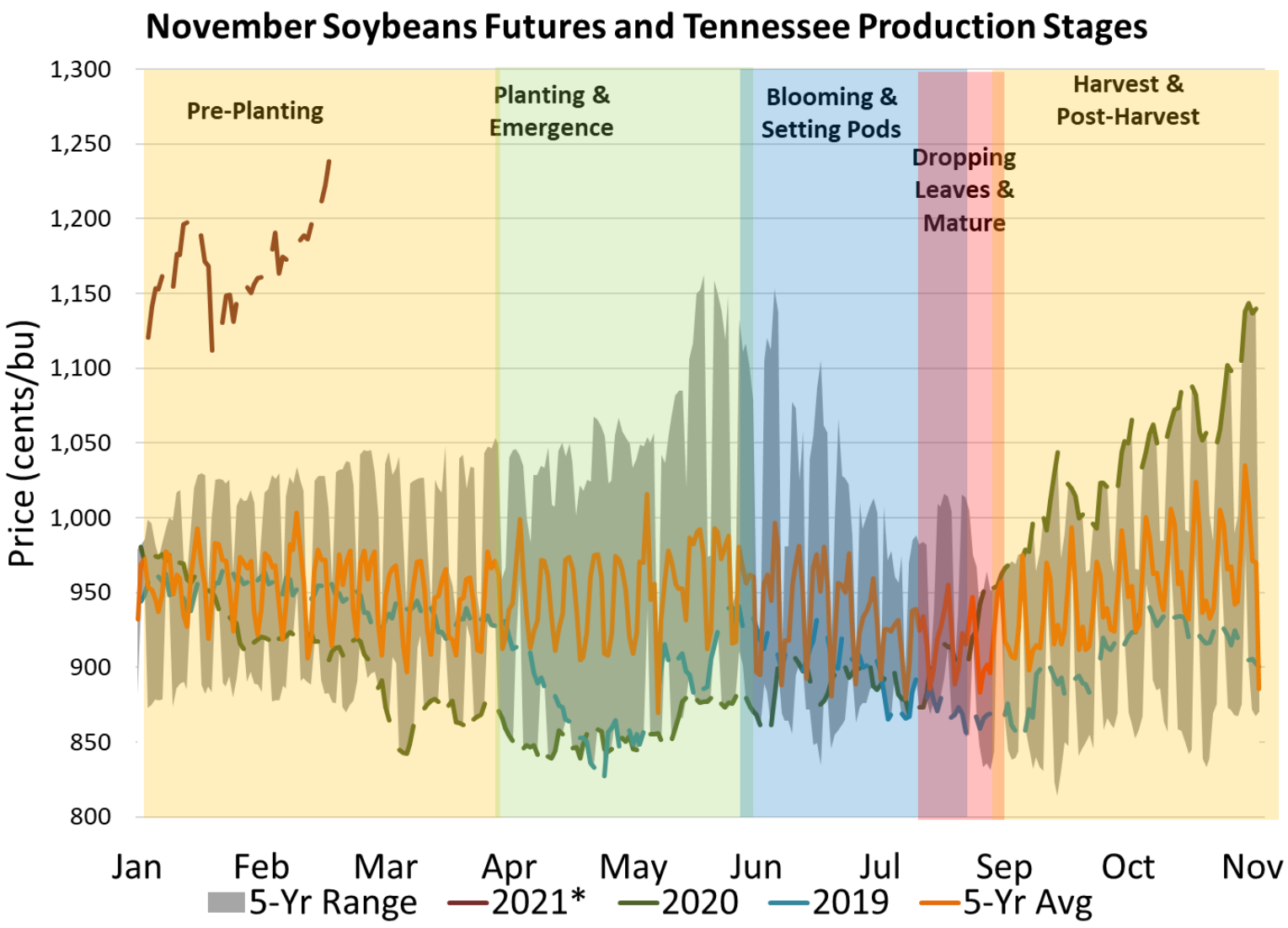
Pricing Tools

- Fixed Price
  - Forward Contracts
  - Short (Sell) Futures
  - Hedge to Arrive
- Minimum Price
  - Long (Buy) Put Options
  - Forward Contract & Long Call Options

December Corn Futures and Tennessee Production Stages



2021 prices through 2/24/21



2021 prices through 2/24/21

Post-Harvest Plans

- Take advantage of pricing opportunities and play defense
- Consider basis, level of carry in the market, and storage costs and/or capacity
- Have an exit plan
  - Subjective time to sell based on minimum and maximum price tolerances
  - Price in increments into seasonal summer highs (end of June)

Closing Comments

- Understand the current market environment and continue to evaluate price projections and yield potential throughout the marketing cycle.
- Evaluate storage capacity relative to anticipated production.
- The amount priced at different times of the year is operation specific but:
  - Have some production priced prior to planting ~25-50%.
  - Don't price your way out of an extended rally!
  - Its not too early to evaluate 2022 opportunities ($4.34 and $11.05 Futures as of 2/24/21).

Thank You!

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