



Food & Agricultural  
Policy Research Institute

University of Missouri

# 2023-2032 FAPRI Baseline Outlook - Crops

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2023 Abner Womack Missouri Agriculture Outlook  
Conference

April 12, 2023

# FAPRI figures compared to USDA Intentions

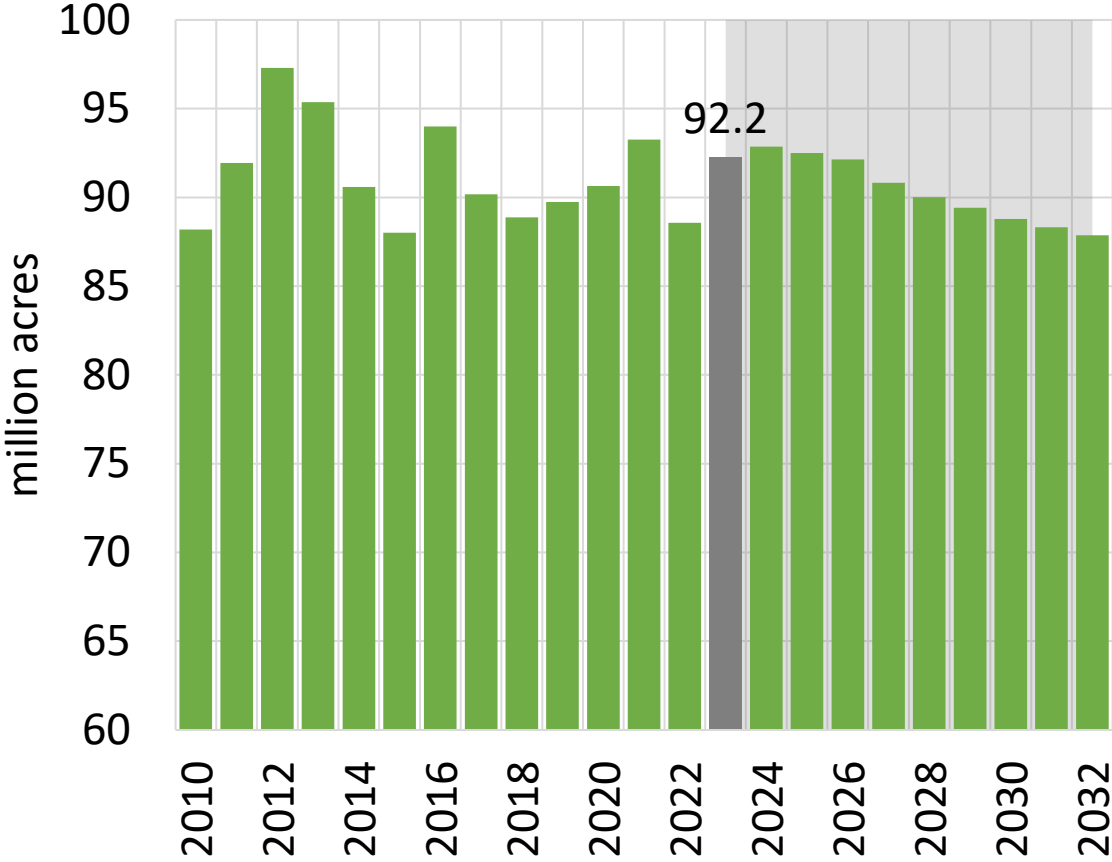
*All the figures shown later are from FAPRI's March Baseline, but are close to Planting Intentions for most crops*

Marketing year	FAPRI	USDA Intentions	FAPRI v. Intentions	
<b>Planted Area</b>	-----	million acres	-----	%
Corn	92.25	92.00	0.25	0.3%
Soybeans	87.22	87.51	-0.29	-0.3%
Wheat	49.42	49.89	-0.47	-0.9%
Upland Cotton	10.52	11.10	-0.59	-5.3%
Sorghum	6.18	5.98	0.20	3.4%
Rice	2.55	2.58	-0.03	-1.2%
Barley	2.83	2.92	-0.09	-3.0%

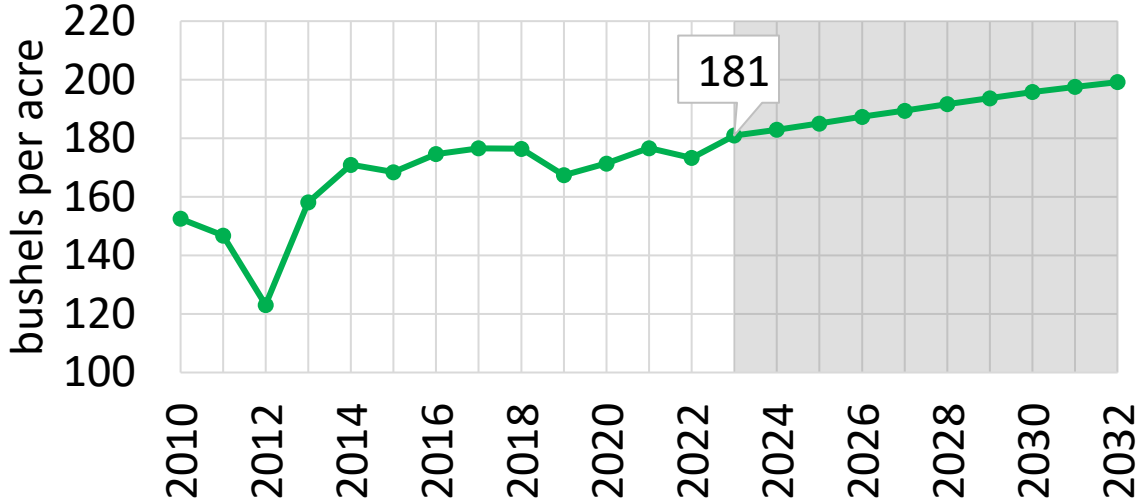
Marketing year	FAPRI	USDA Intentions	FAPRI v. Intentions	
<b>Planted Area</b>	-----	million acres	-----	%
Oats	2.51	2.67	-0.16	-6.0%
Canola	2.11	2.27	-0.16	-6.8%
Sunflowers	1.79	1.36	0.43	31.5%
Peanuts	1.55	1.55	0.00	-0.1%
Sugar beets	1.17	1.11	0.06	5.6%
<b>12-crop area</b>	<b>260.09</b>	<b>260.92</b>	<b>-0.83</b>	<b>-0.3%</b>
Hay (harv.)	50.16	50.65	-0.49	-1.0%
<b>12-crop + hay</b>	<b>310.25</b>	<b>311.57</b>	<b>-1.32</b>	<b>-0.4%</b>

# Corn area, yields, and costs

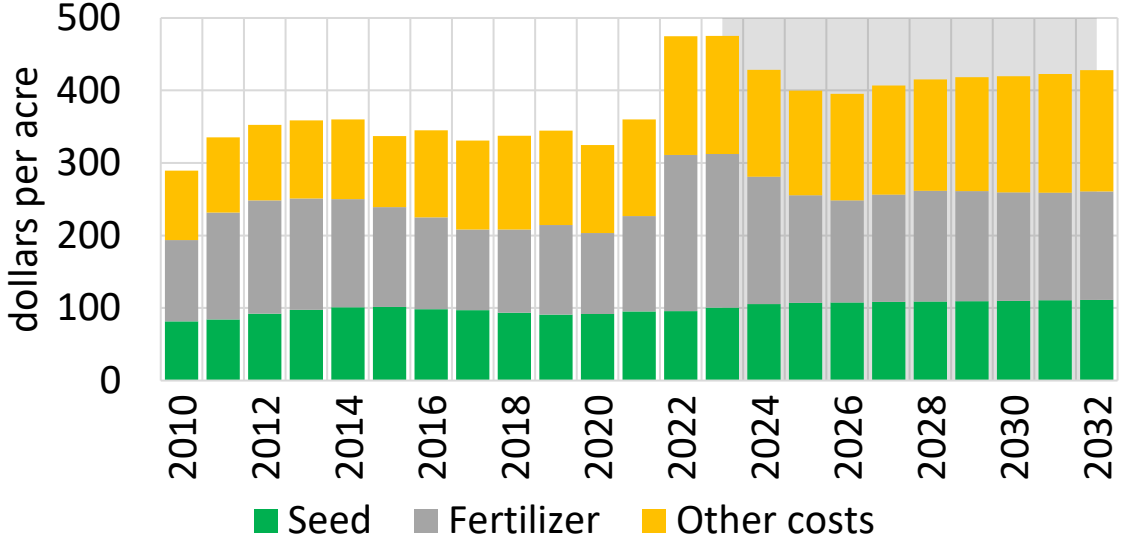
Recovery in corn planted area in 2023



Assumed return to trend yield in 2023

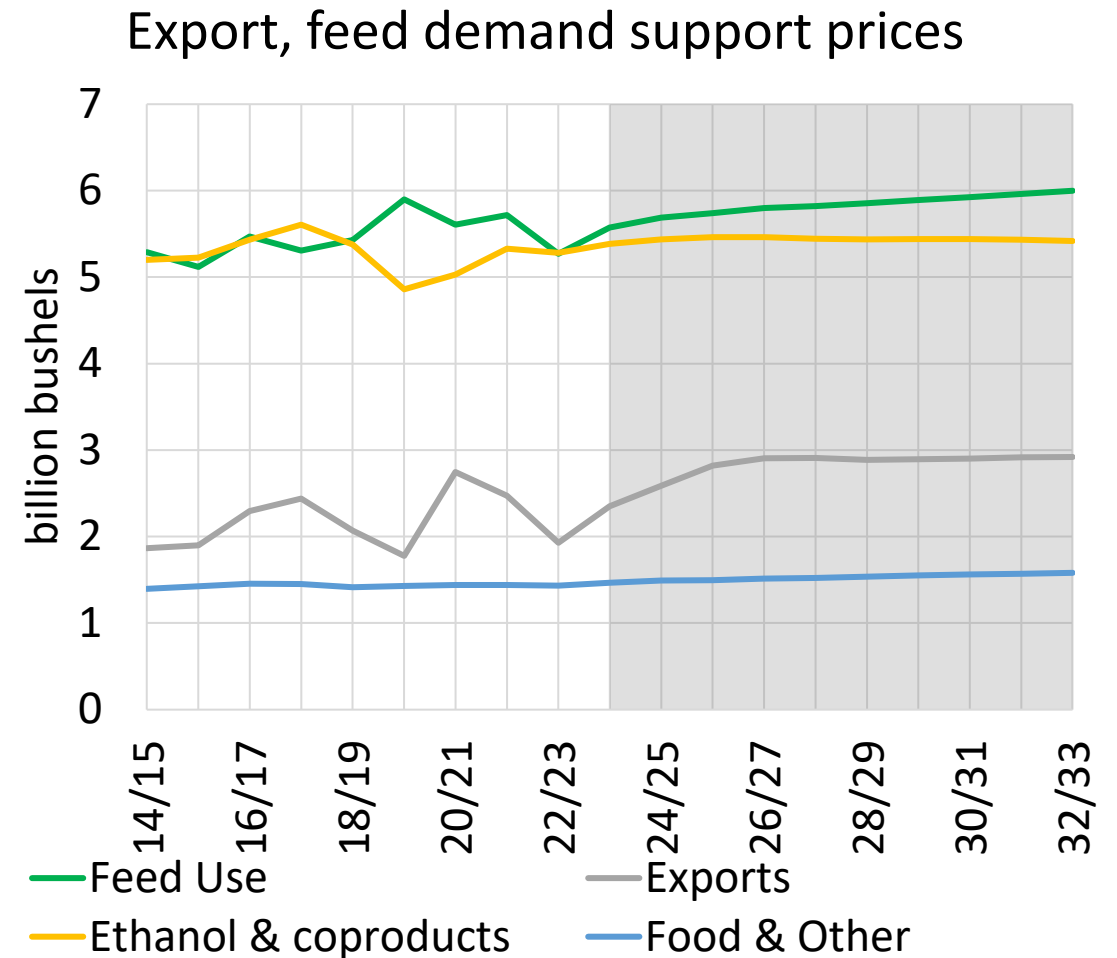


Variable expenses lower after this year



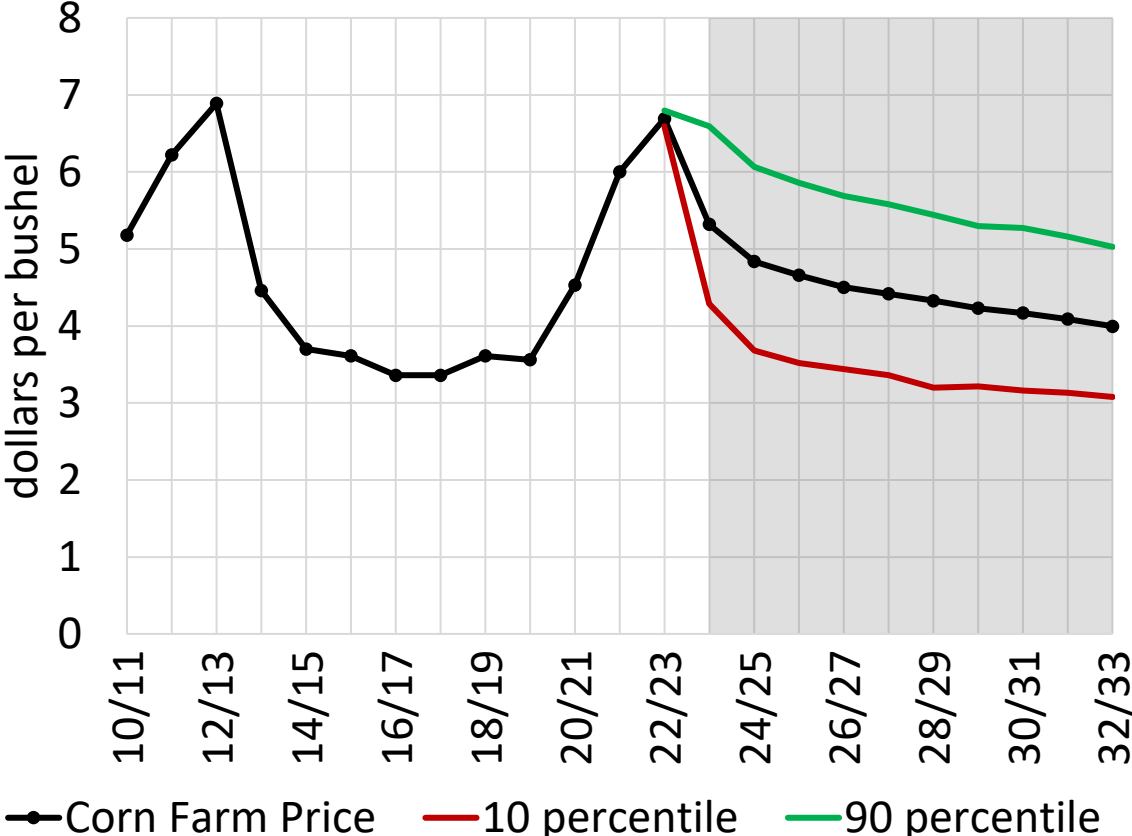
# Corn exports and domestic use

September-August year	22/23	23/24	24/25	25/26	26/27
Planted area	88.6	92.2	92.9	92.5	92.1
Harvested area	79.2	84.3	84.8	84.5	84.2
<b>Yield</b>	<b>173.3</b>	<b>181.0</b>	<b>183.0</b>	<b>185.1</b>	<b>187.4</b>
<b>Supply</b>	<b>15,157</b>	<b>16,536</b>	<b>17,321</b>	<b>17,787</b>	<b>18,077</b>
Beginning stocks	1,377	1,243	1,766	2,120	2,270
Production	13,730	15,259	15,521	15,633	15,774
Imports	50	34	34	34	34
<b>Domestic use</b>	<b>11,984</b>	<b>12,421</b>	<b>12,613</b>	<b>12,696</b>	<b>12,769</b>
Feed and residual	5,270	5,572	5,688	5,738	5,796
Ethanol and coproducts	5,281	5,384	5,435	5,461	5,460
HFCS	410	401	404	395	393
Seed	31	31	31	32	31
Food and other	992	1,033	1,055	1,071	1,087
<b>Exports</b>	<b>1,930</b>	<b>2,349</b>	<b>2,588</b>	<b>2,821</b>	<b>2,905</b>
<b>Ending stocks</b>	<b>1,243</b>	<b>1,766</b>	<b>2,120</b>	<b>2,270</b>	<b>2,403</b>
Farm price	6.69	5.32	4.84	4.66	4.50
Effective reference price	3.70	3.70	4.01	4.24	4.25

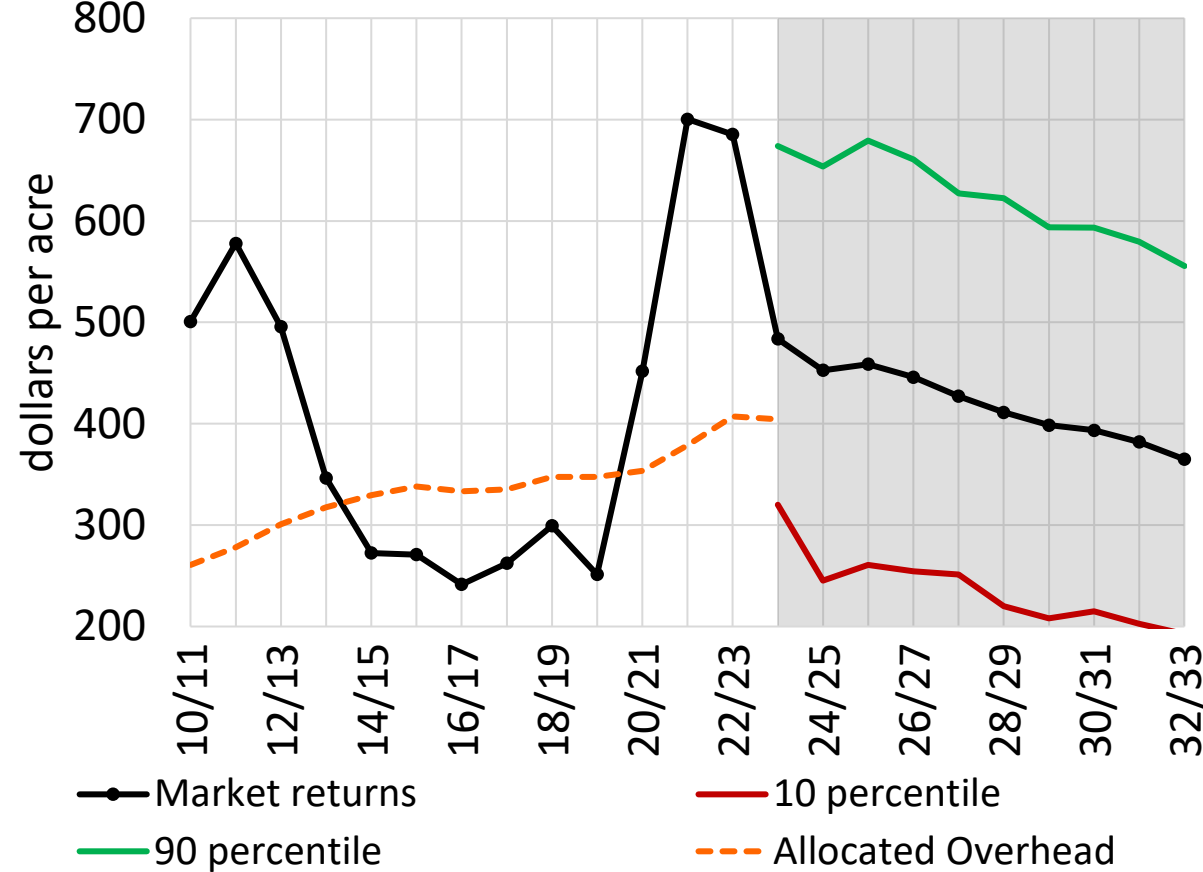


# Corn prices and returns

Corn prices could fall from recent highs

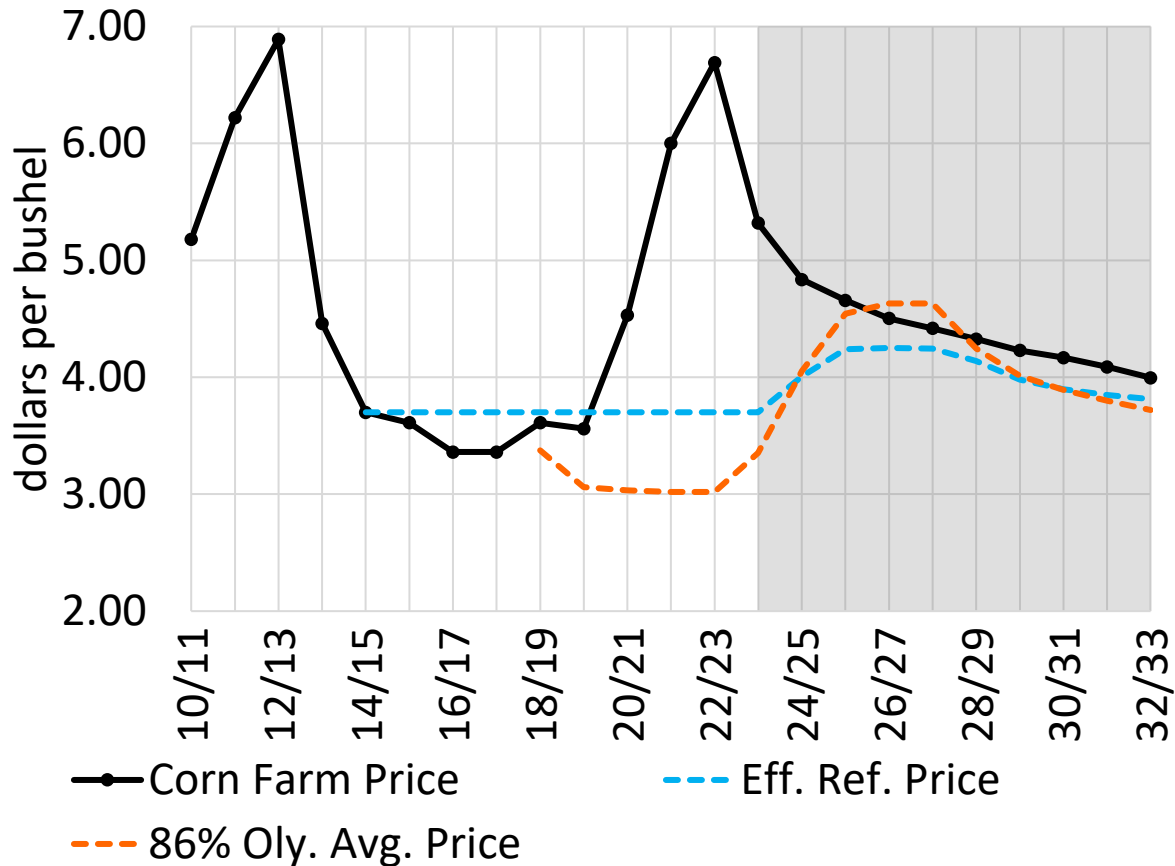


Corn returns could fall from recent highs

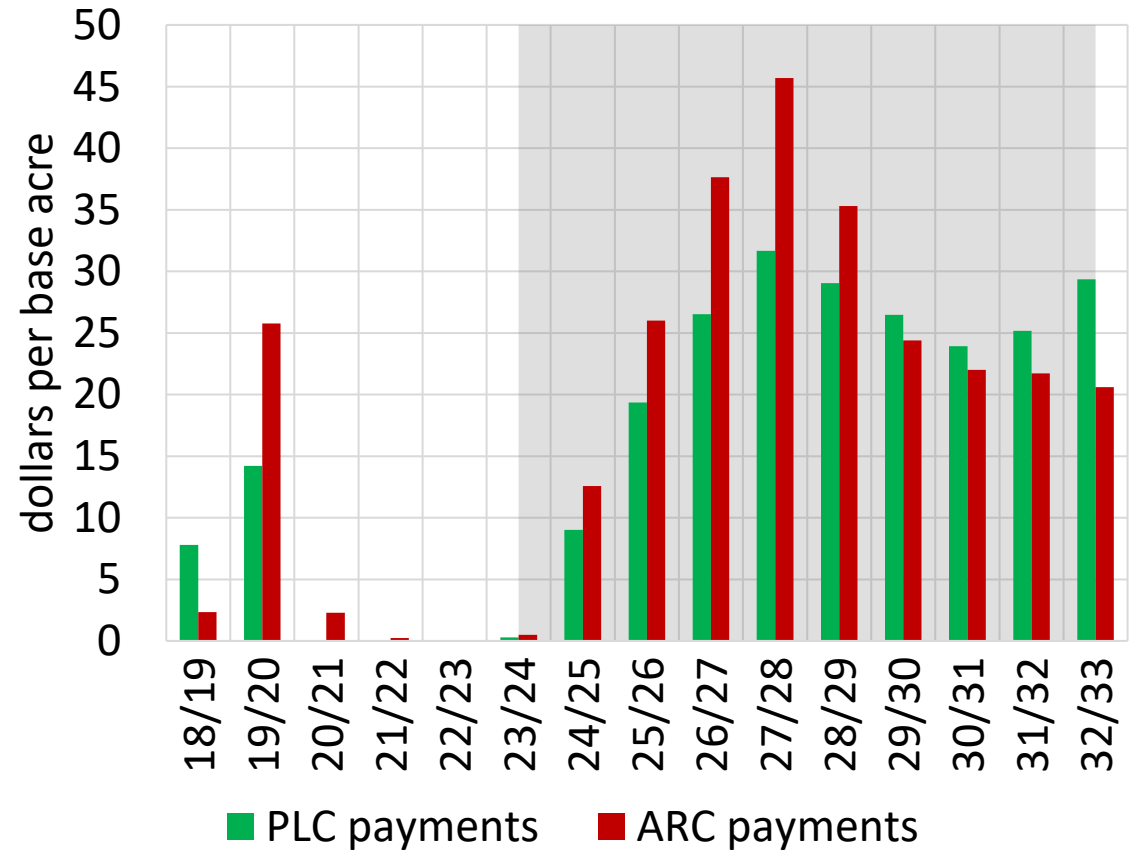


# Corn program payments

Prices could near payment triggers

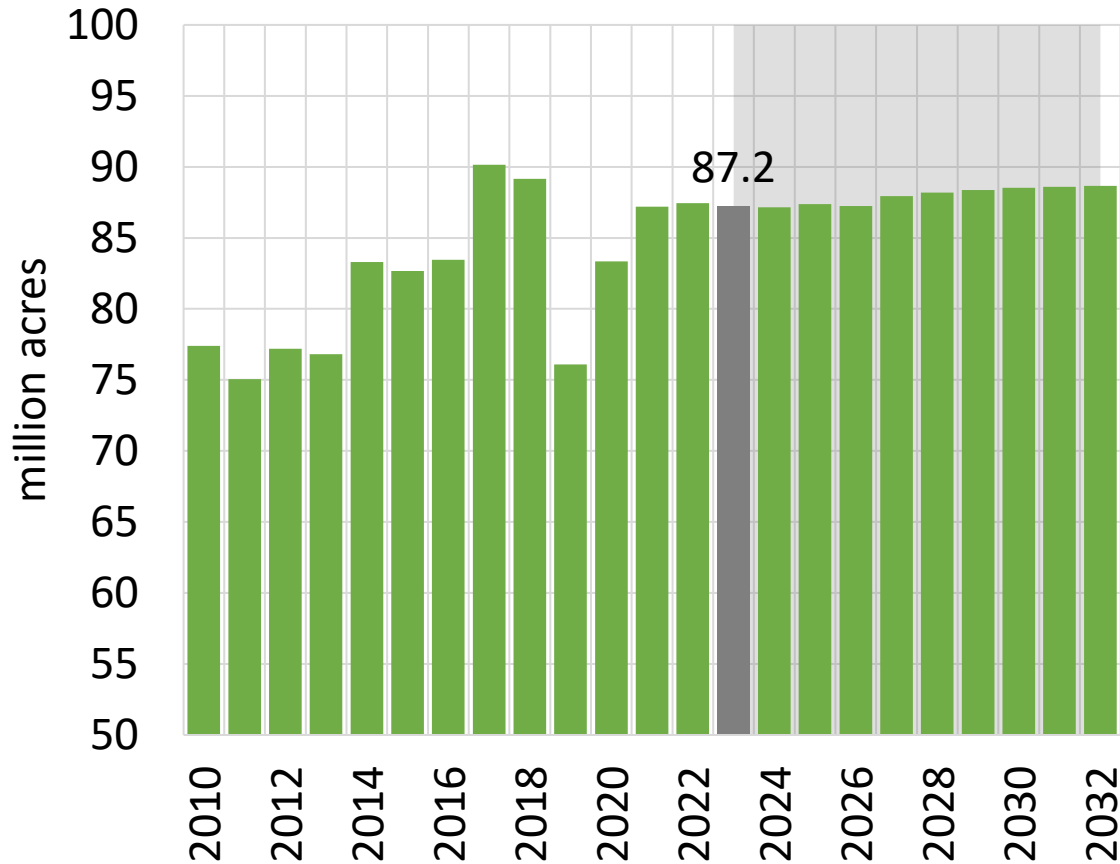


Comparison of ARC and PLC payments

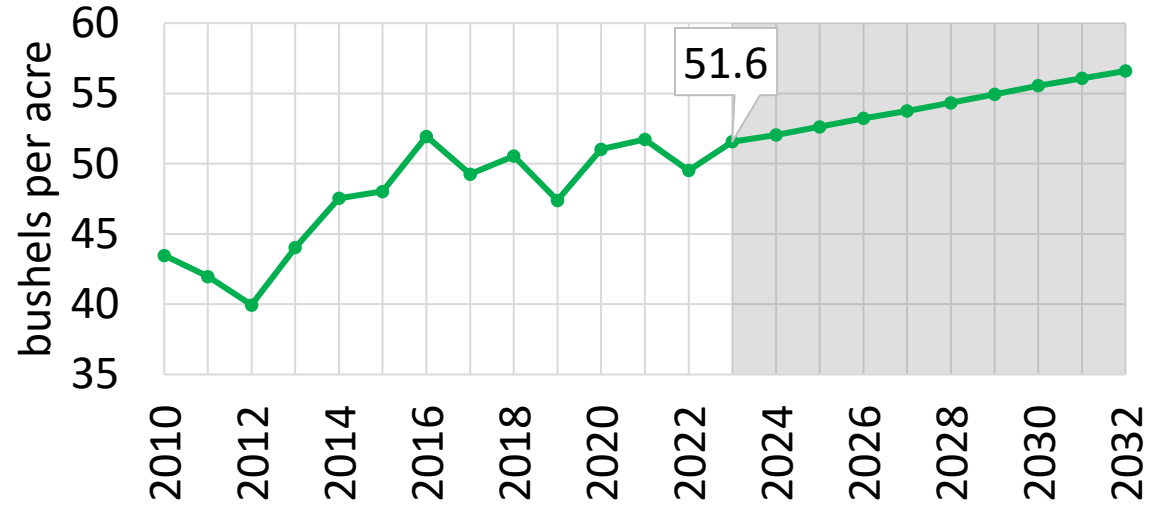


# Soybean area, yields, and costs

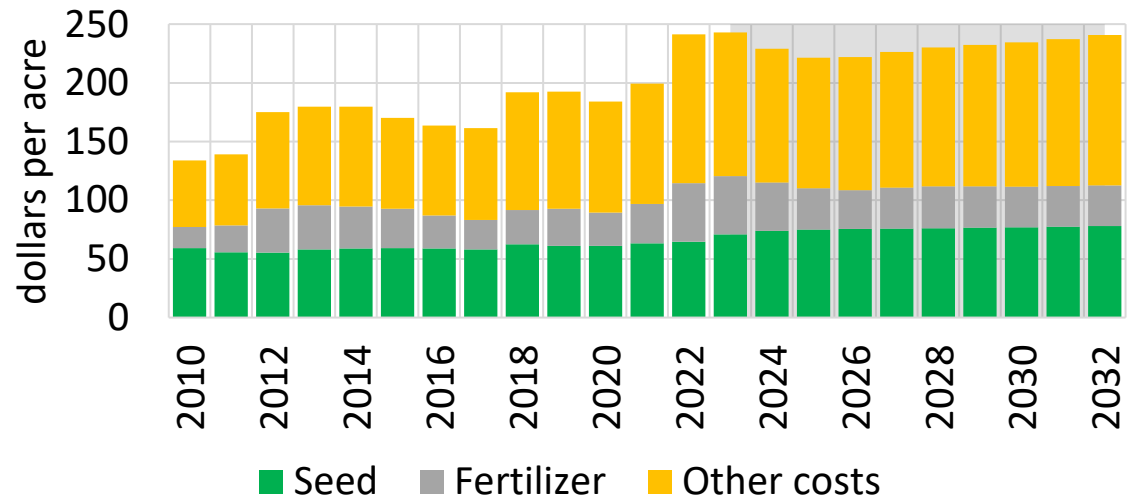
Small decline in planted area in 2023



Assumed return to trend yield in 2023

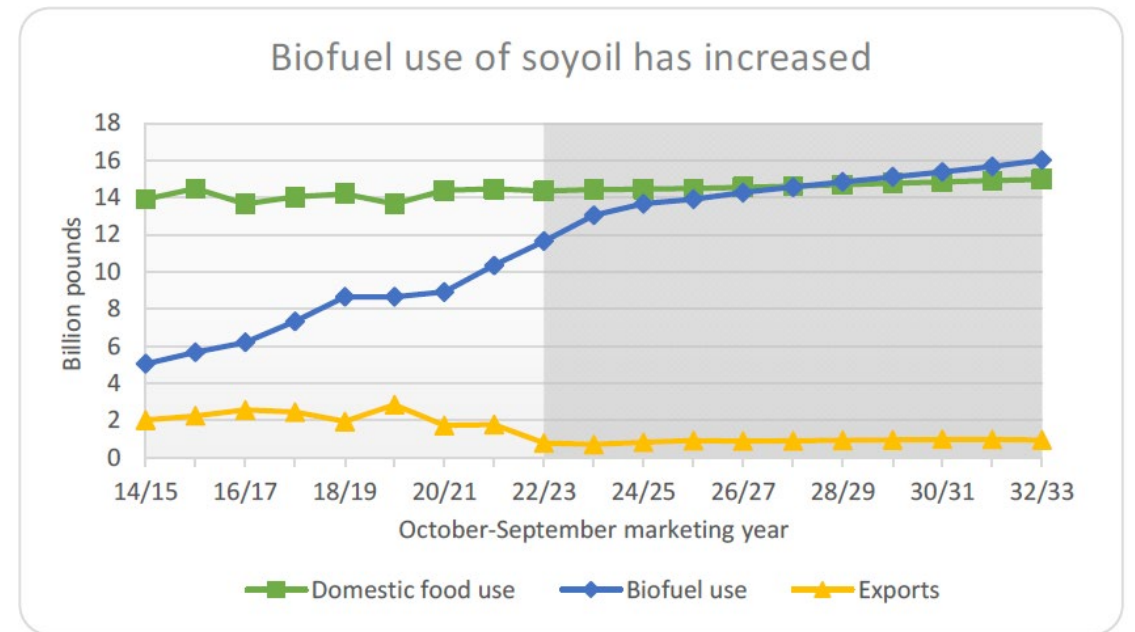
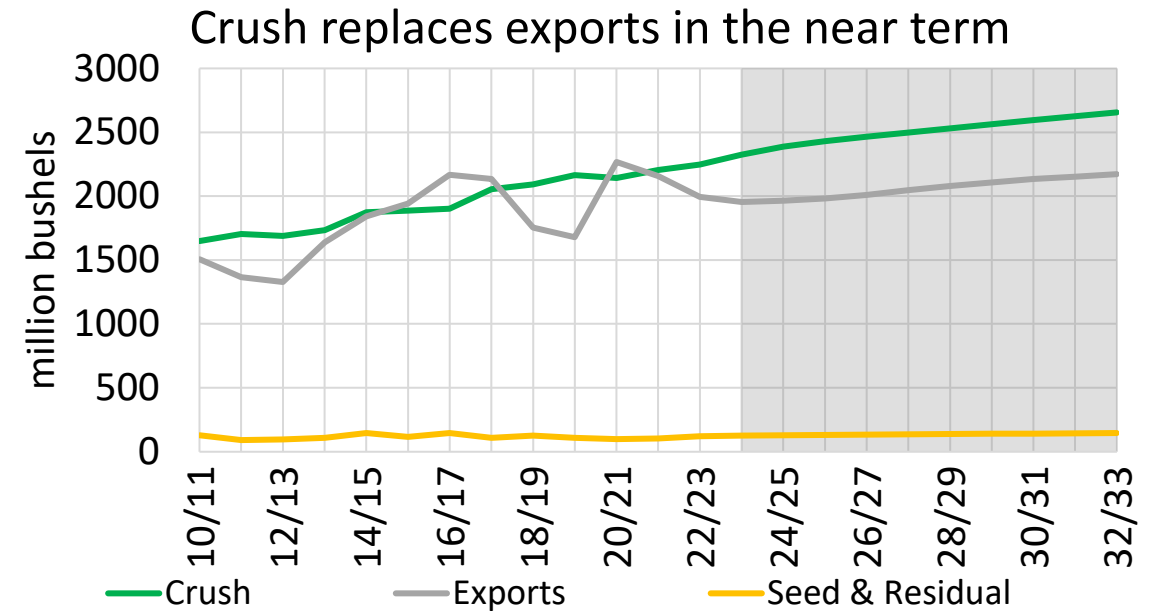


Variable expenses lower after this year



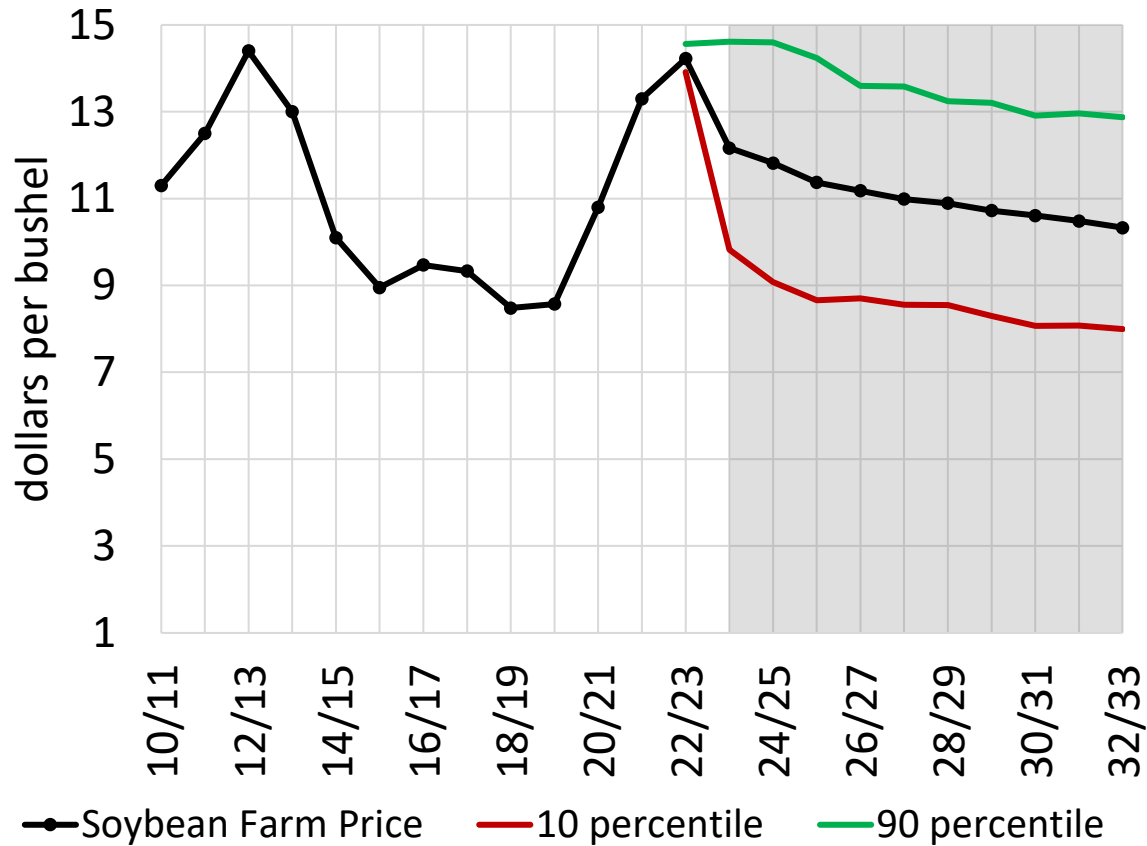
# Soybean crush and exports

September-August year	22/23	23/24	24/25	25/26	26/27
Planted area	87.5	87.2	87.2	87.4	87.2
Harvested area	86.3	86.3	86.3	86.5	86.4
Yield	49.5	51.6	52.1	52.6	53.2
<b>Supply</b>	<b>4,566</b>	<b>4,674</b>	<b>4,779</b>	<b>4,869</b>	<b>4,939</b>
Beginning stocks	274	206	271	300	326
Production	4,276	4,453	4,492	4,554	4,598
Imports	15	15	15	15	15
<b>Domestic use</b>	<b>2,366</b>	<b>2,450</b>	<b>2,514</b>	<b>2,561</b>	<b>2,597</b>
Crush	2,246	2,325	2,387	2,431	2,464
Seed and residual	120	125	127	130	133
<b>Exports</b>	<b>1,993</b>	<b>1,953</b>	<b>1,964</b>	<b>1,982</b>	<b>2,010</b>
<b>Ending stocks</b>	<b>206</b>	<b>271</b>	<b>300</b>	<b>326</b>	<b>333</b>
Farm price	14.23	12.17	11.82	11.37	11.18
Illinois processor price	14.43	12.42	12.09	11.65	11.47
Effective reference price	8.40	8.40	9.26	9.63	9.65

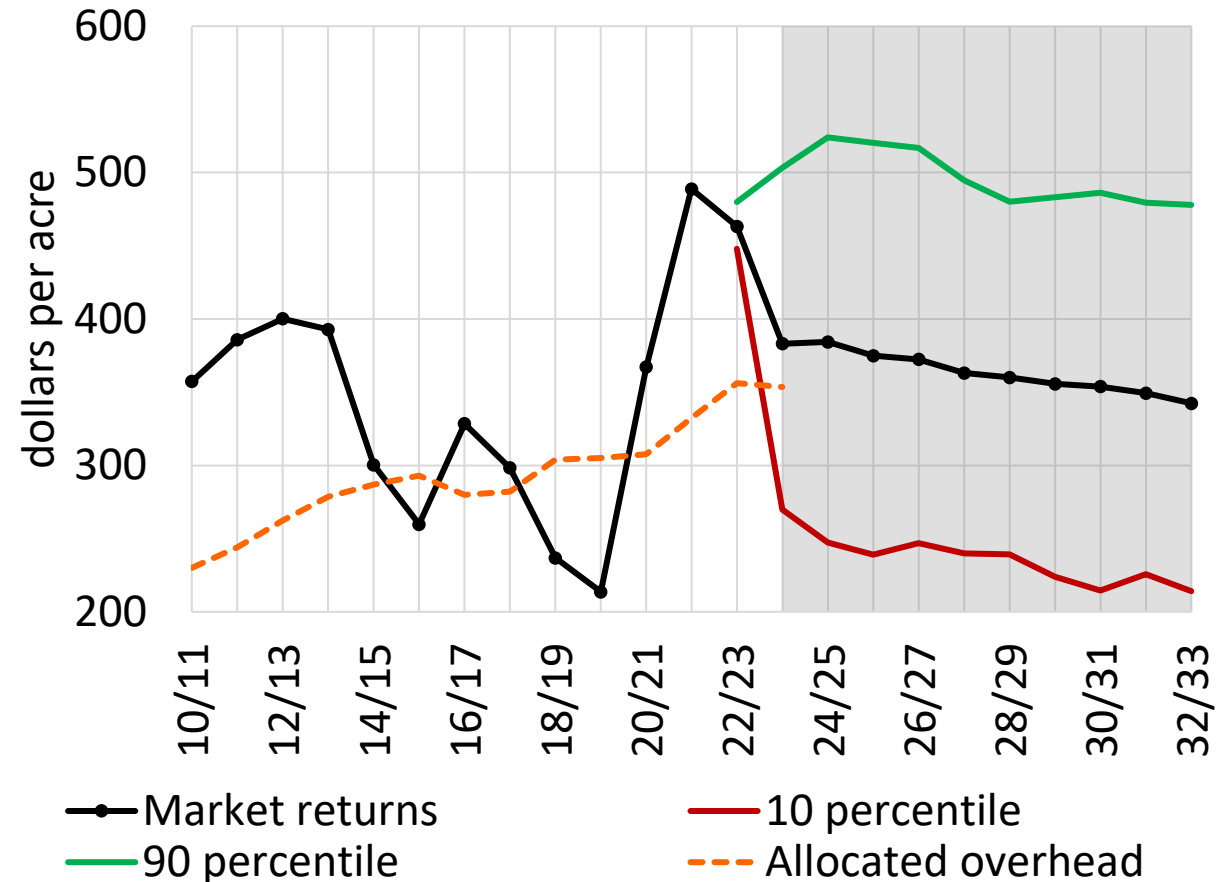


# Soybean prices, program payments and returns

Prices could fall from recent highs

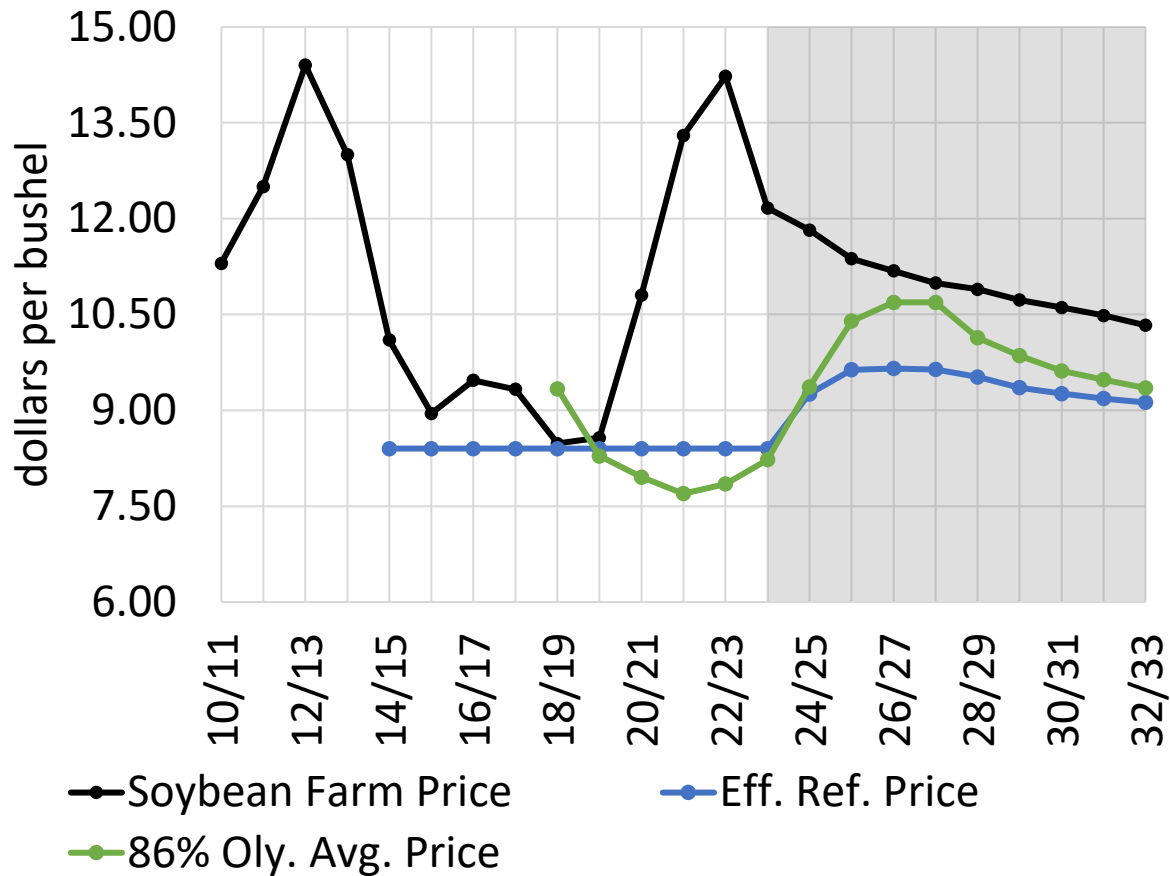


Returns could fall from recent highs

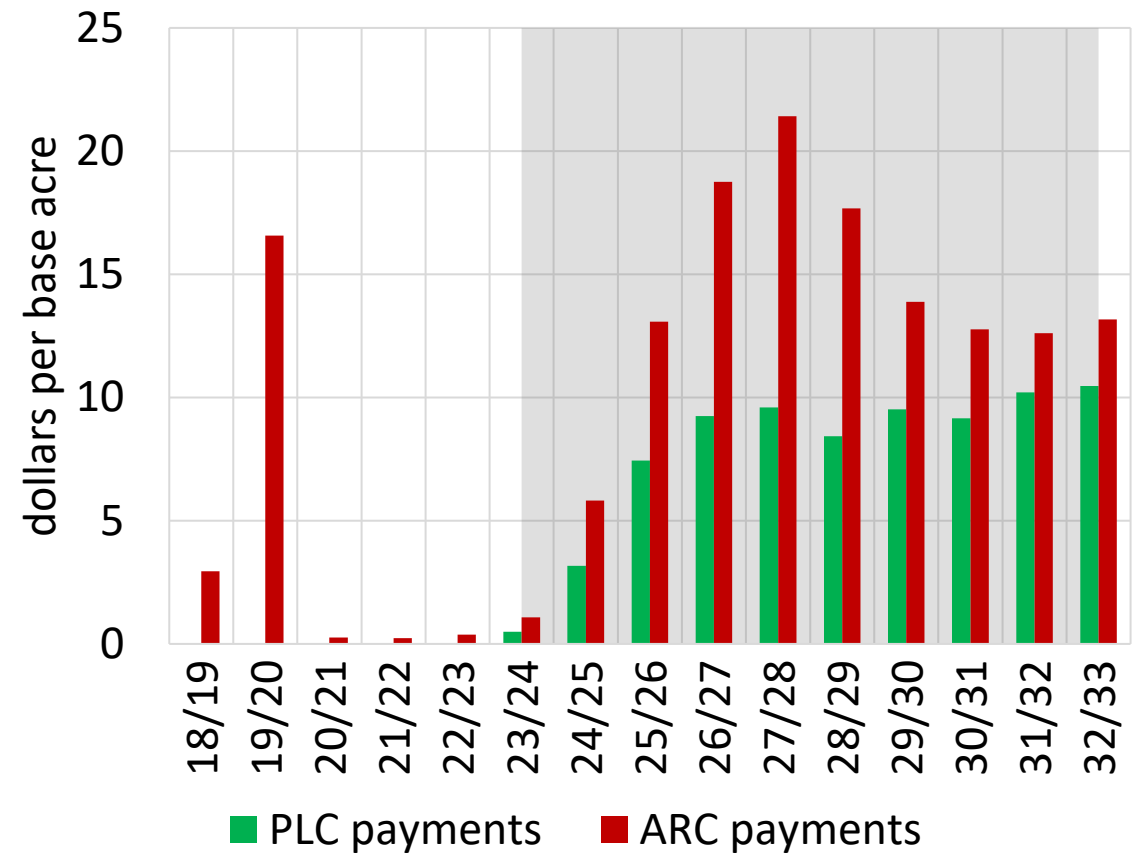


# Soybean program payments

Prices could near payment triggers

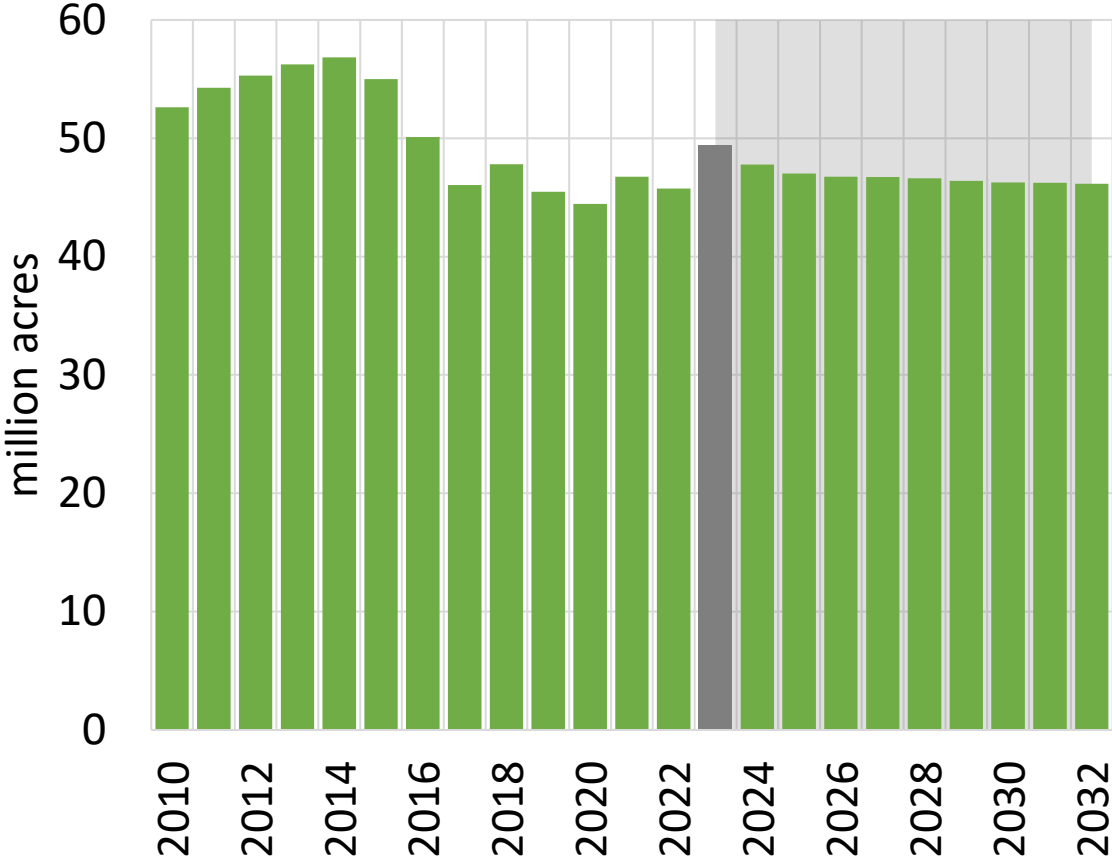


Comparison of ARC and PLC payments

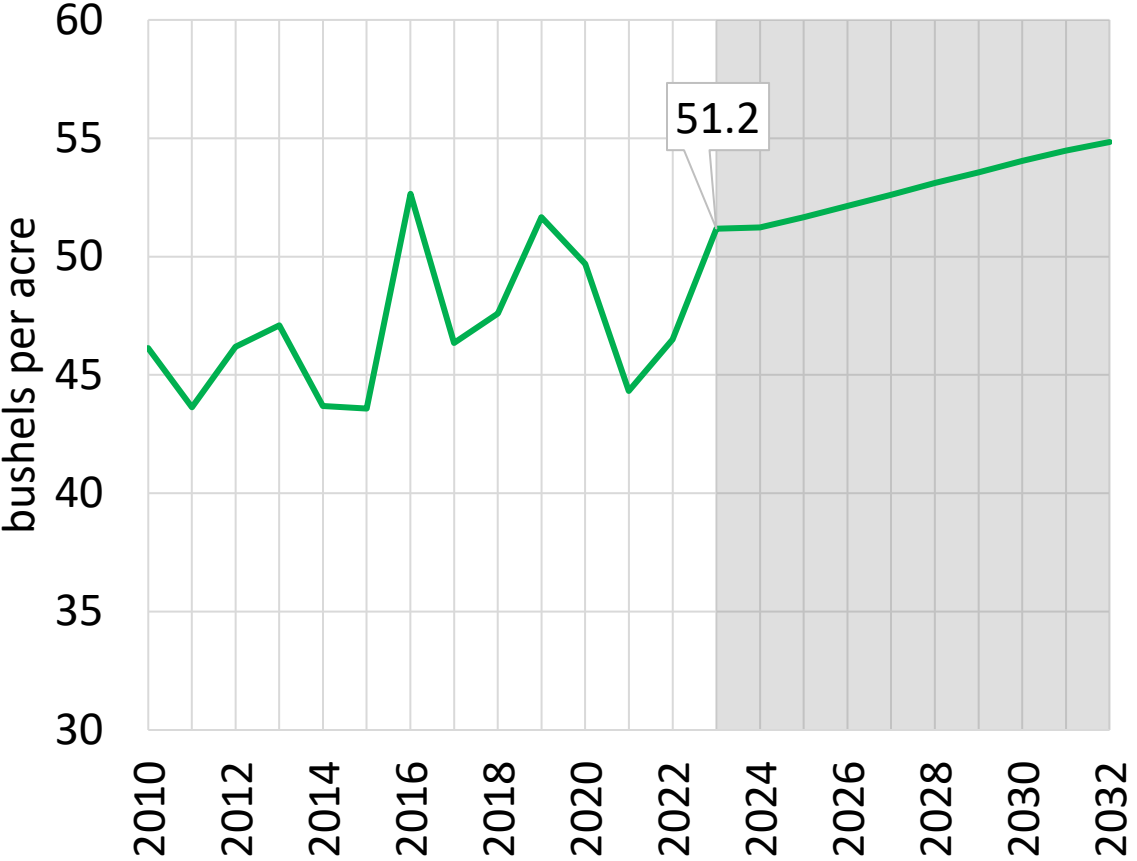


# Wheat: Area & Yield

Higher wheat planted area in 2023

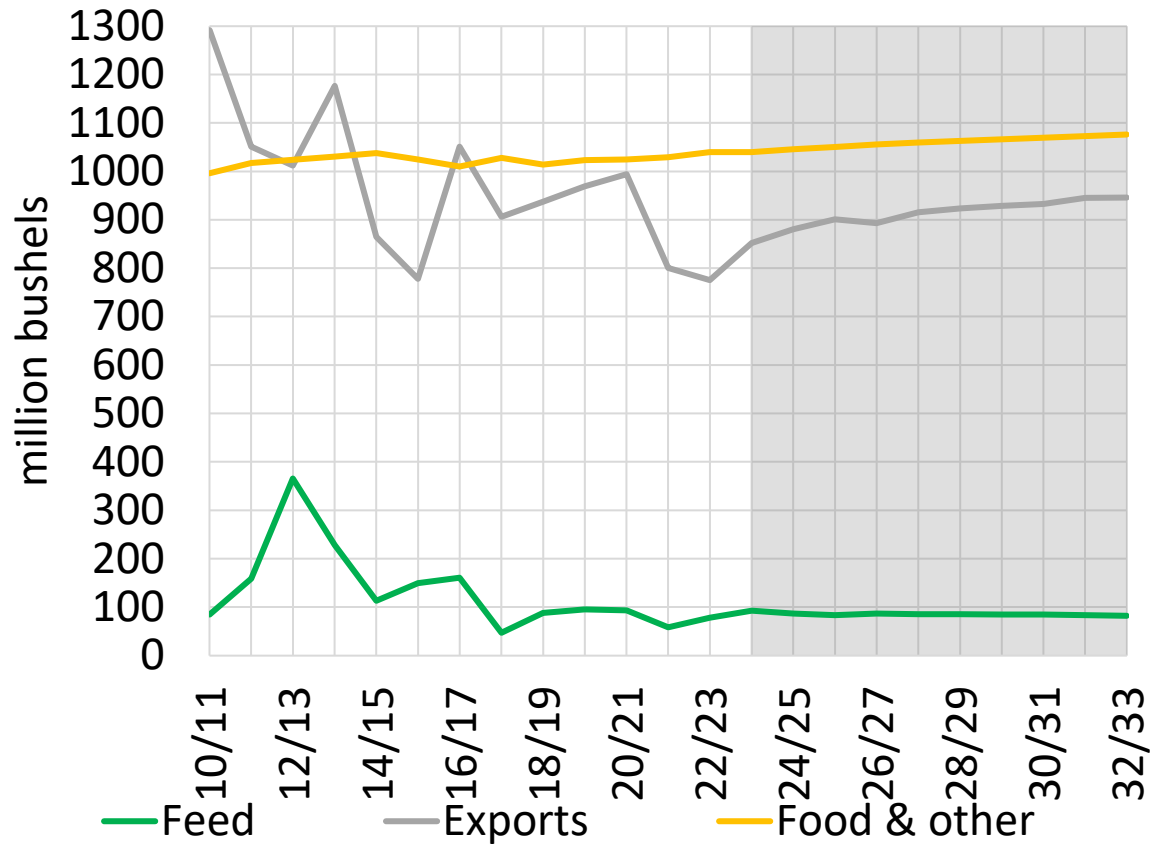


Assumed return to trend yield in 2023

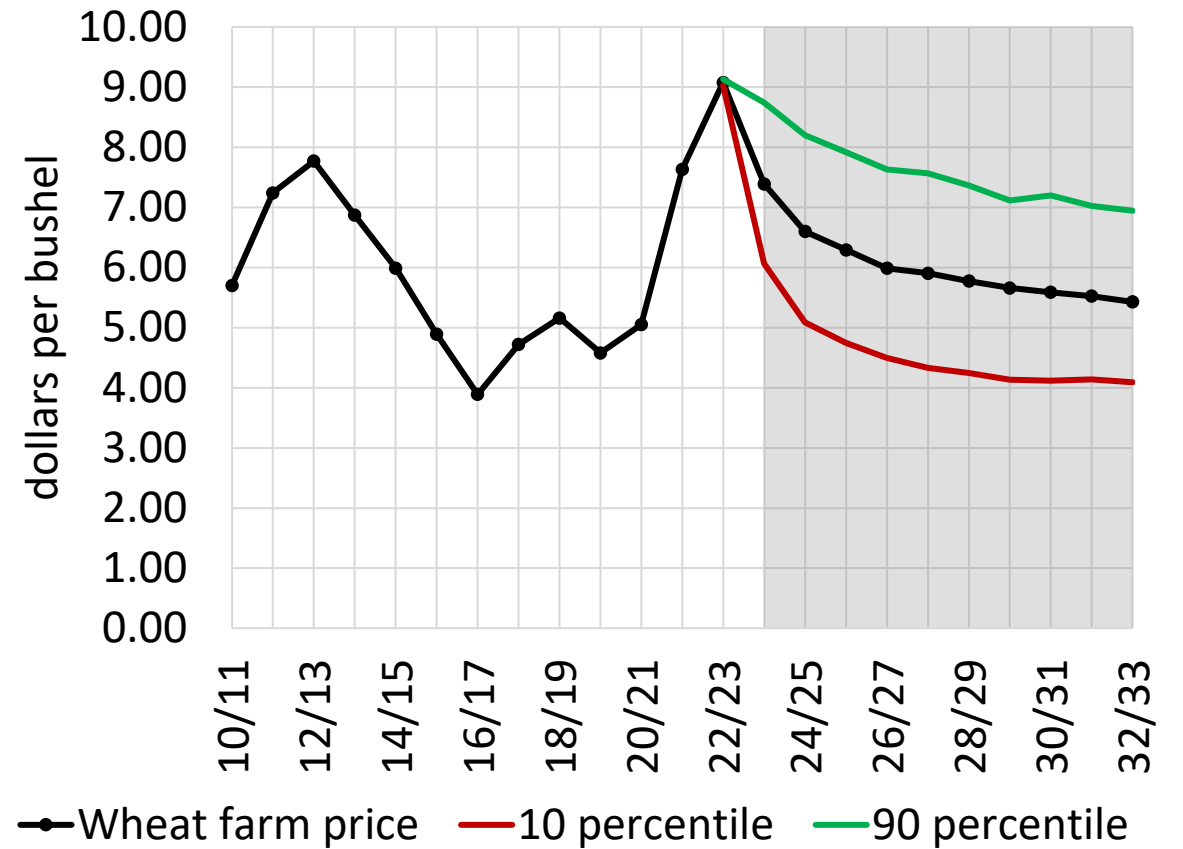


# Wheat exports, domestic use, and prices

## Higher exports and feed use in 2023

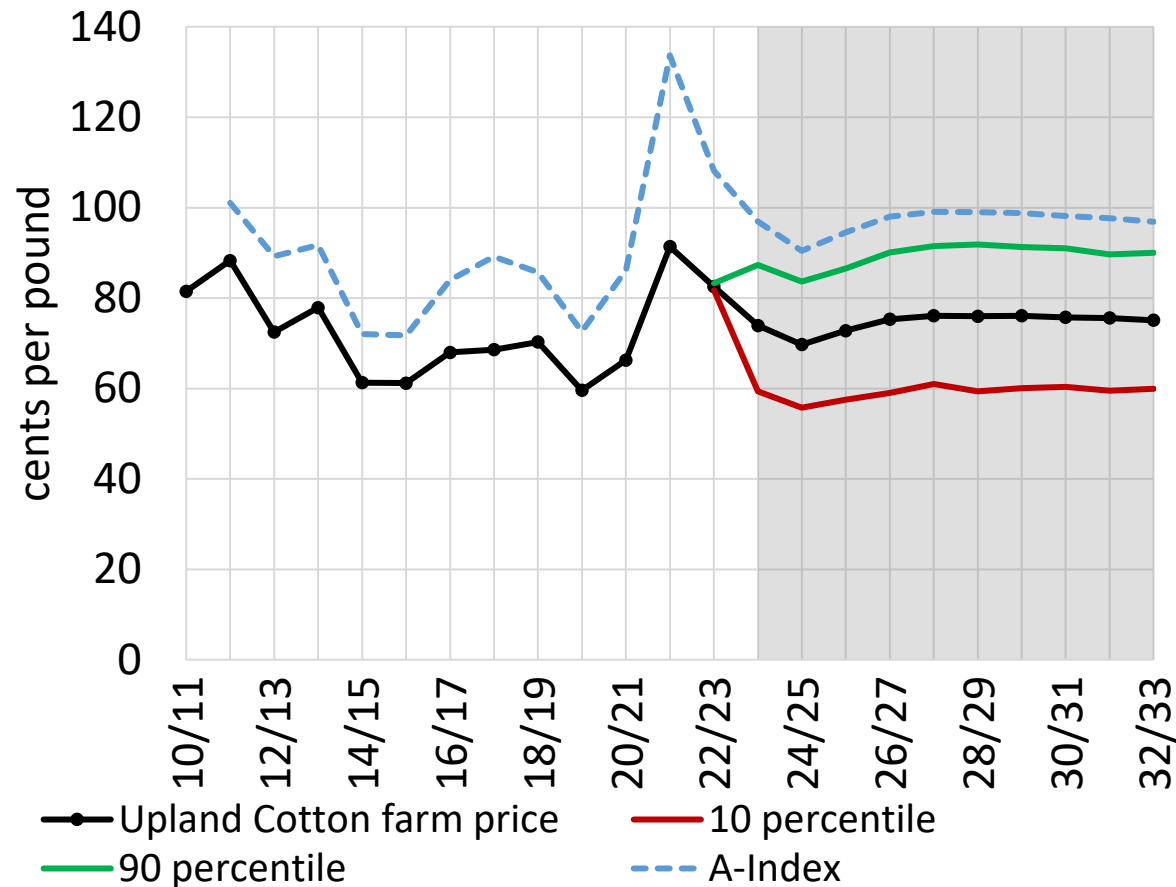


## Wheat prices fall from recent highs

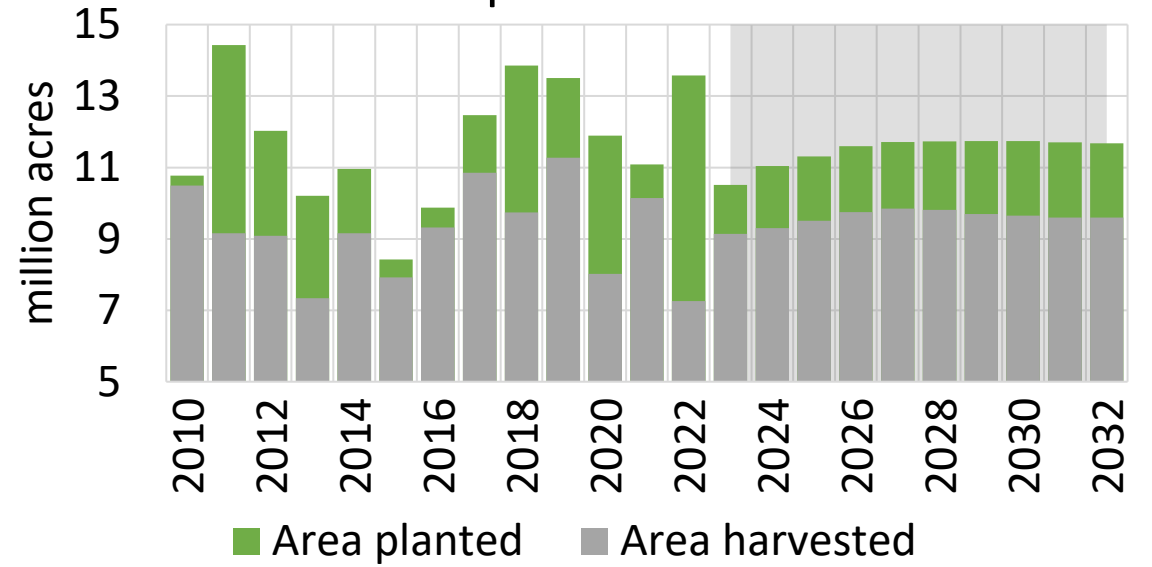


# Cotton area, exports, and prices

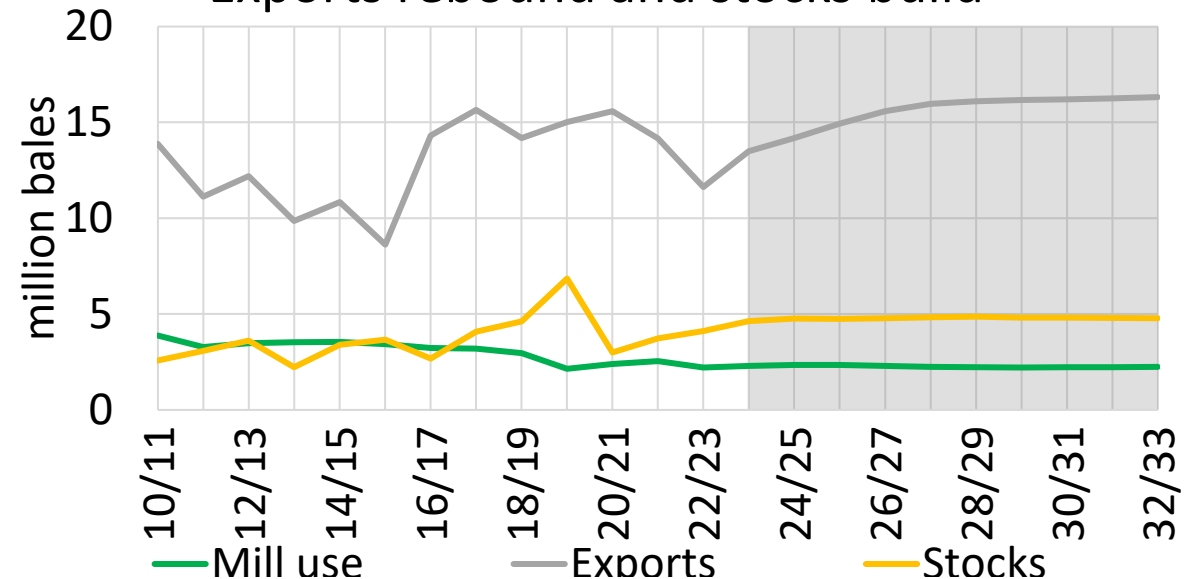
Prices could fall from recent highs



Lower cotton planted area in 2023

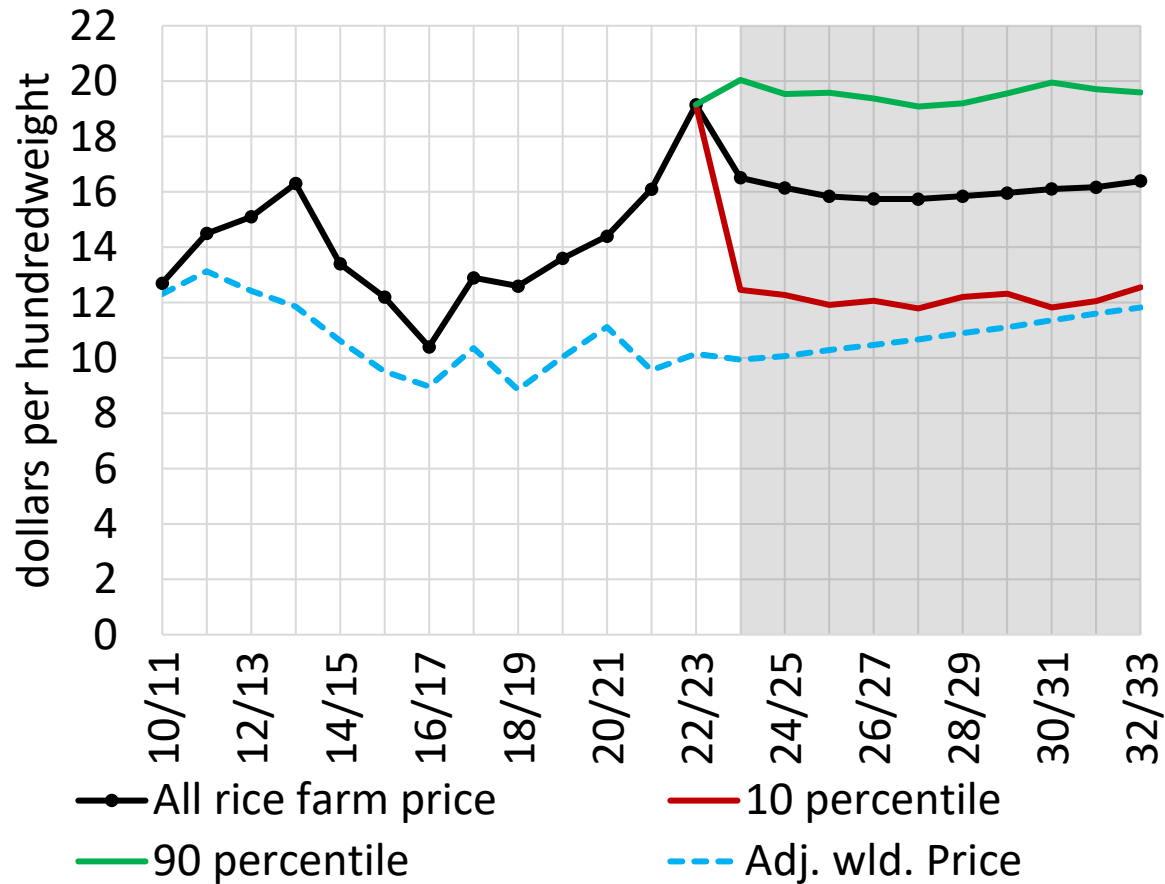


Exports rebound and stocks build

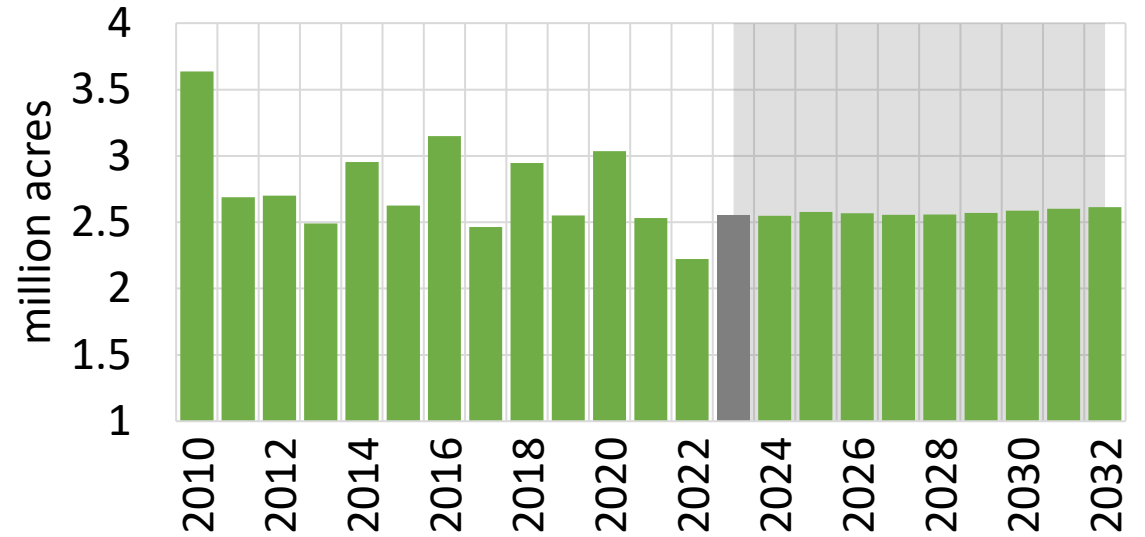


# Rice area, exports, and prices

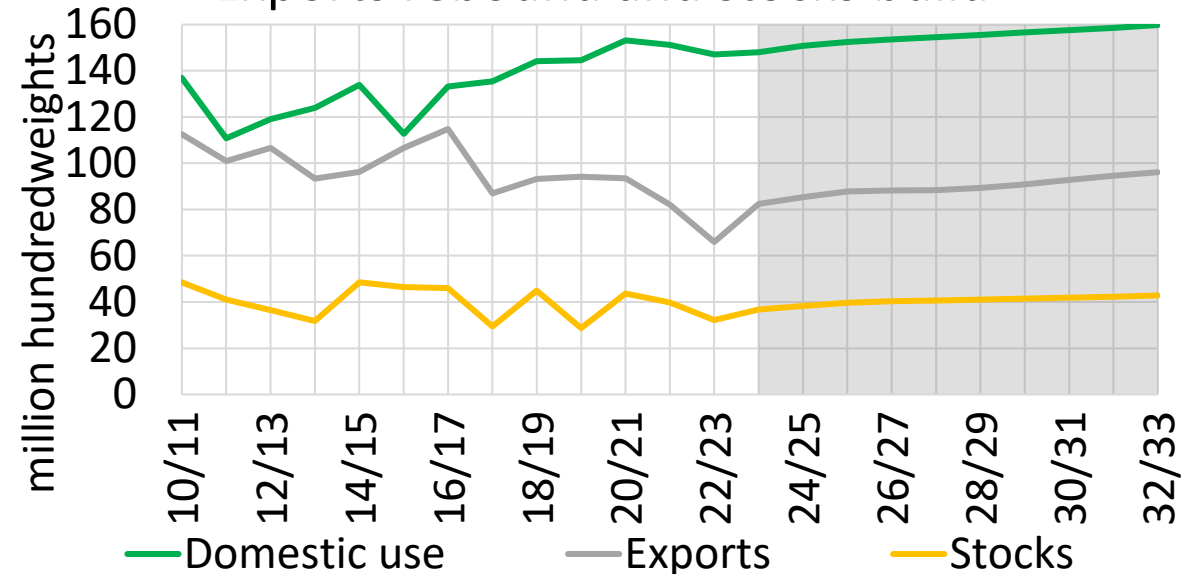
Rice prices could fall from recent highs



Recovery in rice area in 2023



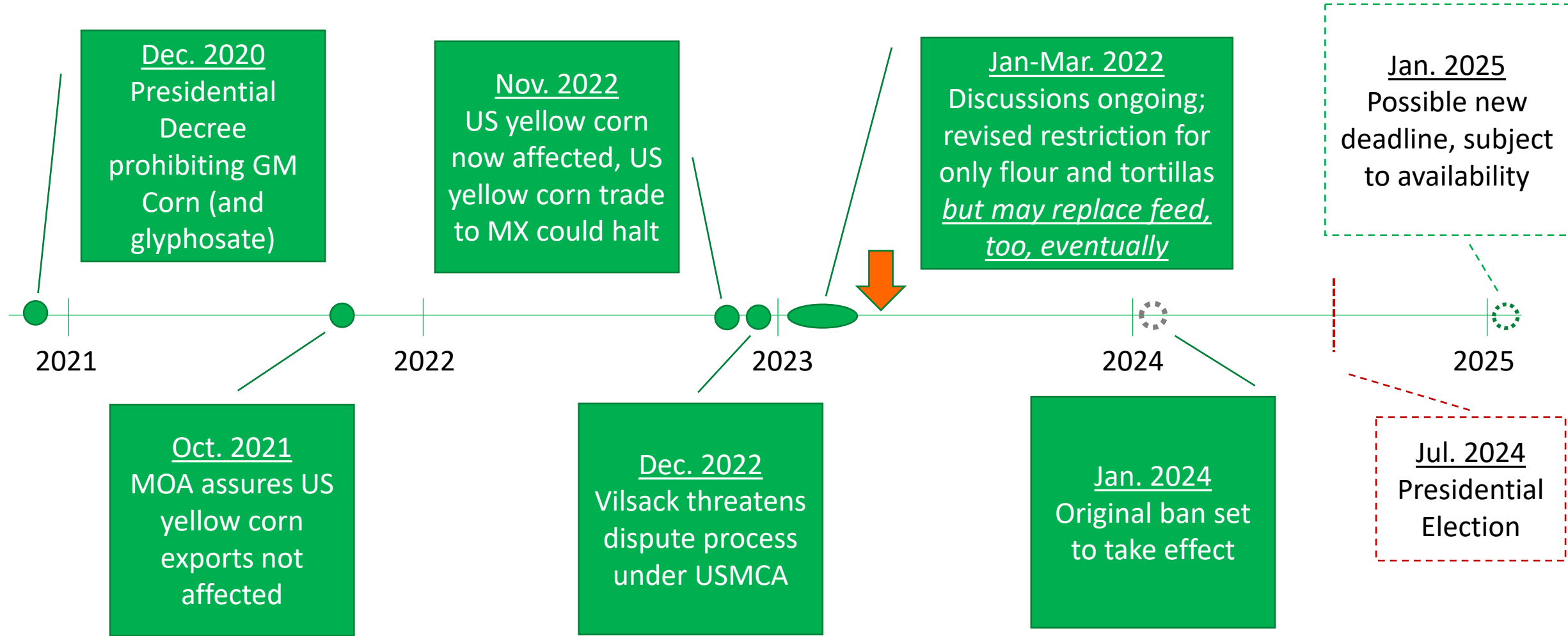
Exports rebound and stocks build



# Many uncertainties remain

- Spring weather
- South American production
- Russia/Ukraine
- Macroeconomic events
- Oil, energy, and fuel prices
- Other input costs
- Farm bill: commodity programs, rules, crop insurance, etc.
- And more...

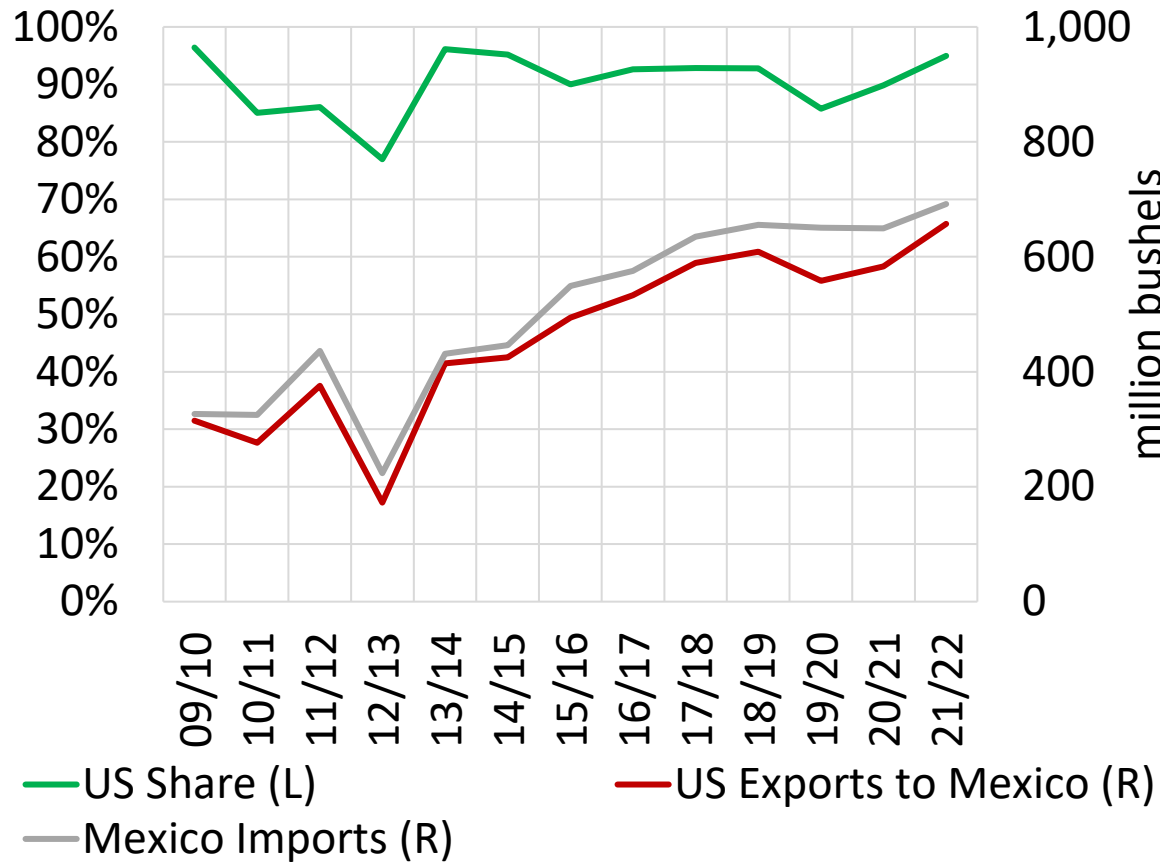
# Mexico GM Corn Issue: A timeline of select events



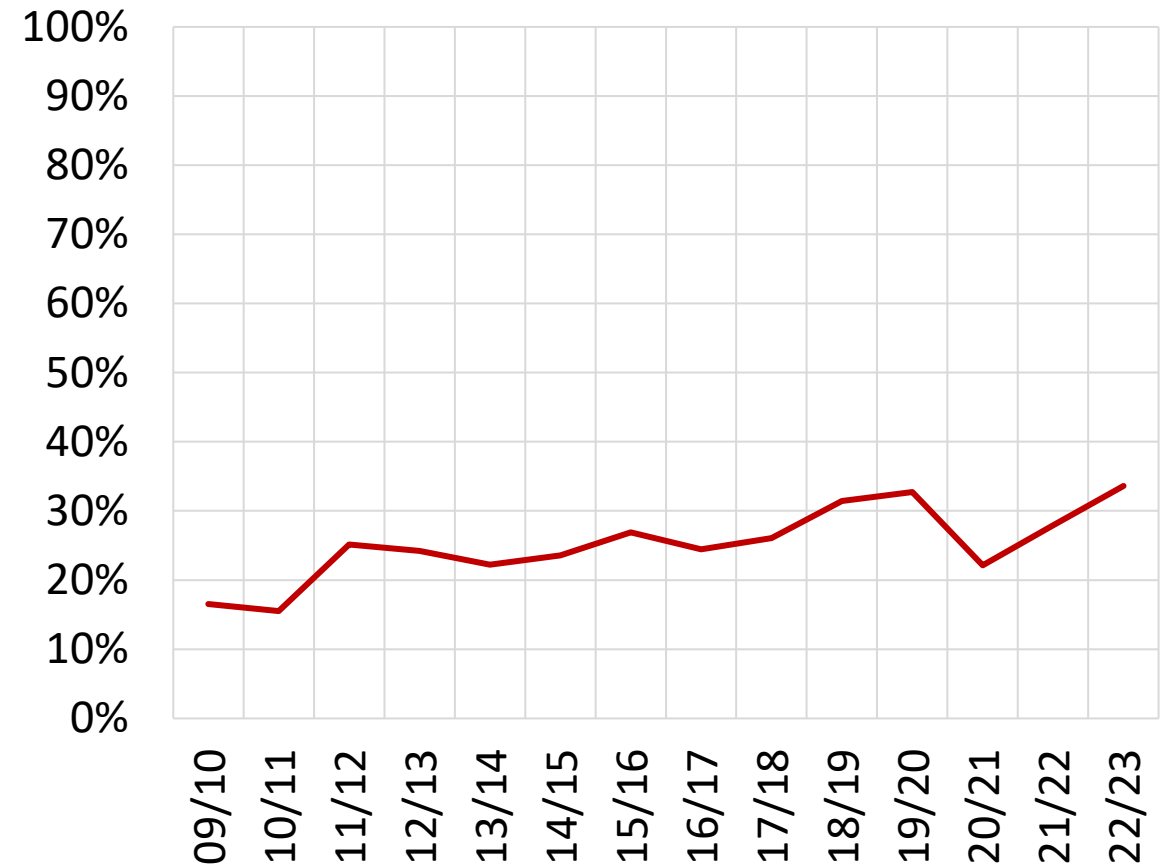
*What would it take for the US to supply Mexico with Non-GM corn?*

# US and Mexico corn trade

## Mexico corn imports and US share

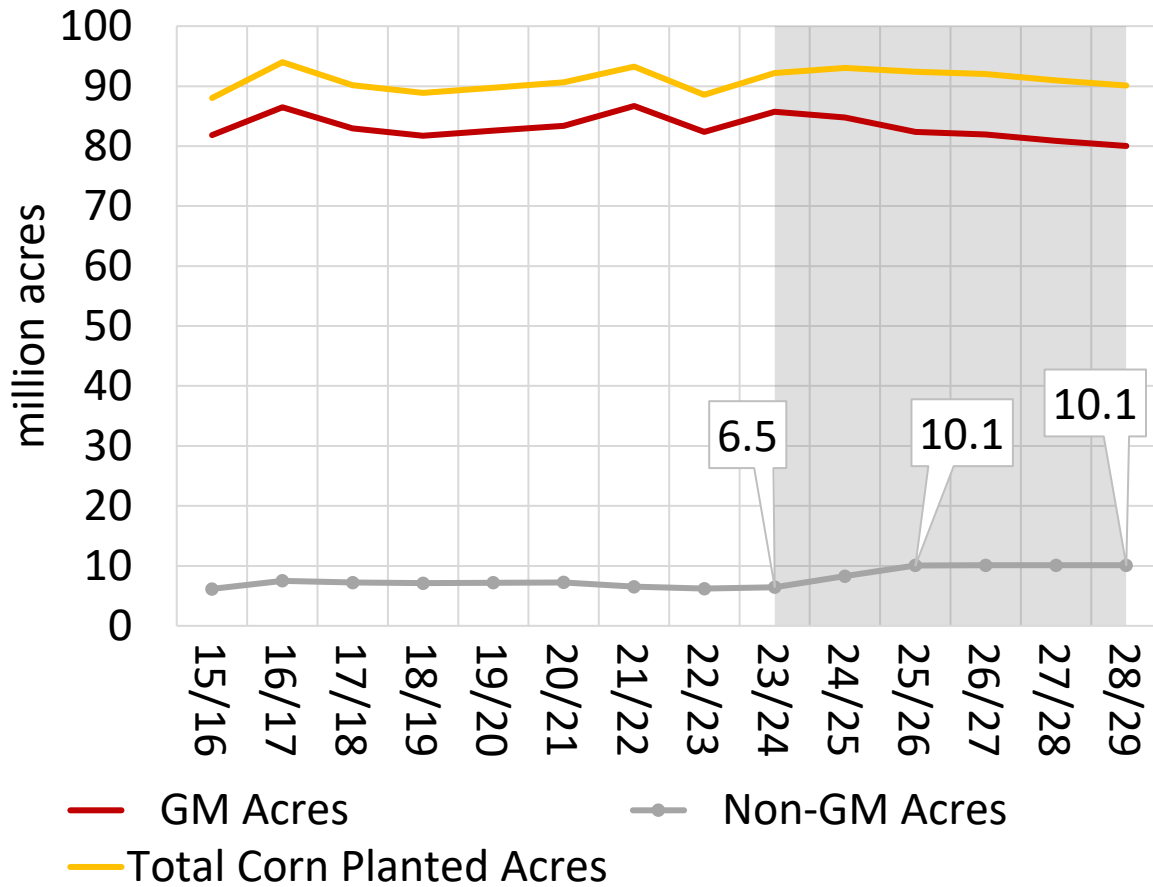


## Mexico Share of US Corn Exports

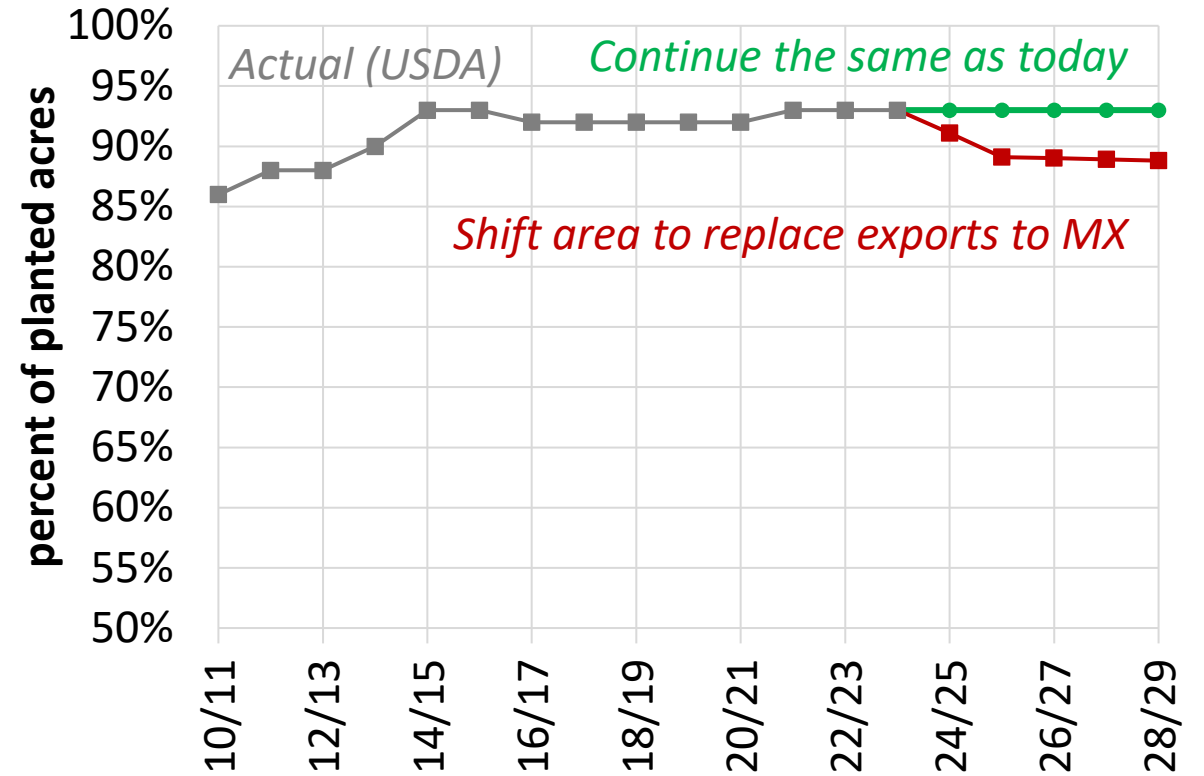


# How the US might satisfy their import demand

Could shift GM to Non-GM corn area



Adoption of GE Corn in the US



# How to the US might satisfy their import demand

	units	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Phase In ( <i>assumption</i> )	percent				0%	0%	50%	100%	100%
<b>Corn Grain Production</b>	<b>mln. bu.</b>	<b>13,620</b>	<b>14,111</b>	<b>15,074</b>	<b>13,730</b>	<b>15,187</b>	<b>15,478</b>	<b>15,528</b>	<b>15,630</b>
GM Corn Grain	mln. bu.	12,573	13,027	14,060	12,811	14,170	14,131	13,849	13,927
Non-GM Corn Grain	mln. bu.	1,009	1,042	964	870	964	1,291	1,620	1,642
Organic Corn Grain	mln. bu.	38	42	49	49	53	56	59	62
<b>Corn Acres Planted</b>	<b>1000 ac</b>	<b>89,745</b>	<b>90,652</b>	<b>93,252</b>	<b>88,579</b>	<b>92,208</b>	<b>93,042</b>	<b>92,421</b>	<b>92,052</b>
GM Acres	1000 ac	82,565	83,400	86,724	82,378	85,754	84,762	82,353	81,946
Non-GM Acres	1000 ac	7,180	7,252	6,528	6,201	6,455	8,281	10,068	10,106
Organic Acres	1000 ac	382	414	445	473	488	510	532	554
Ordinary Non-GM Acres	1000 ac	6,797	6,838	6,083	5,727	5,967	7,770	9,536	9,552
Percent GE Corn Adoption	percent	92.0%	92.0%	93.0%	93.0%	93.0%	91.1%	89.1%	89.0%

# Cautions with these estimates...

- These estimates assume that we need to ADD enough non-GM corn to fill the Mexican market, which may not necessarily be the case.
- These are very high-level calculations and of course many other factors will matter such as Mexican policy certainty, the US response (and any eventual agreements), logistics of getting non-GM corn down there, where this corn might come from in the US, and what price might balance the market.
- These prices need to be sufficient for US producers to grow it, grain companies to handle it, and for Mexican end-users to afford it.
- There could be some non-GM corn that could be sourced from existing production that could be segregated and diverted to Mexico. A premium that isn't sufficient to attract new acres could encourage segregation that isn't currently happening.
- Trade re-arrangements could occur. Their demand could be filled from another country. That could be inefficient and result in real additional costs. If trade patterns just re-shuffle, maybe the net effects are comparatively small.

# Thanks!


FAPRI-MU website:

 [www.fapri.missouri.edu](http://www.fapri.missouri.edu)

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