

Grain Market Outlook for 2023-24

“Winning-the-Game” Grain Marketing Webinar

Kansas State University

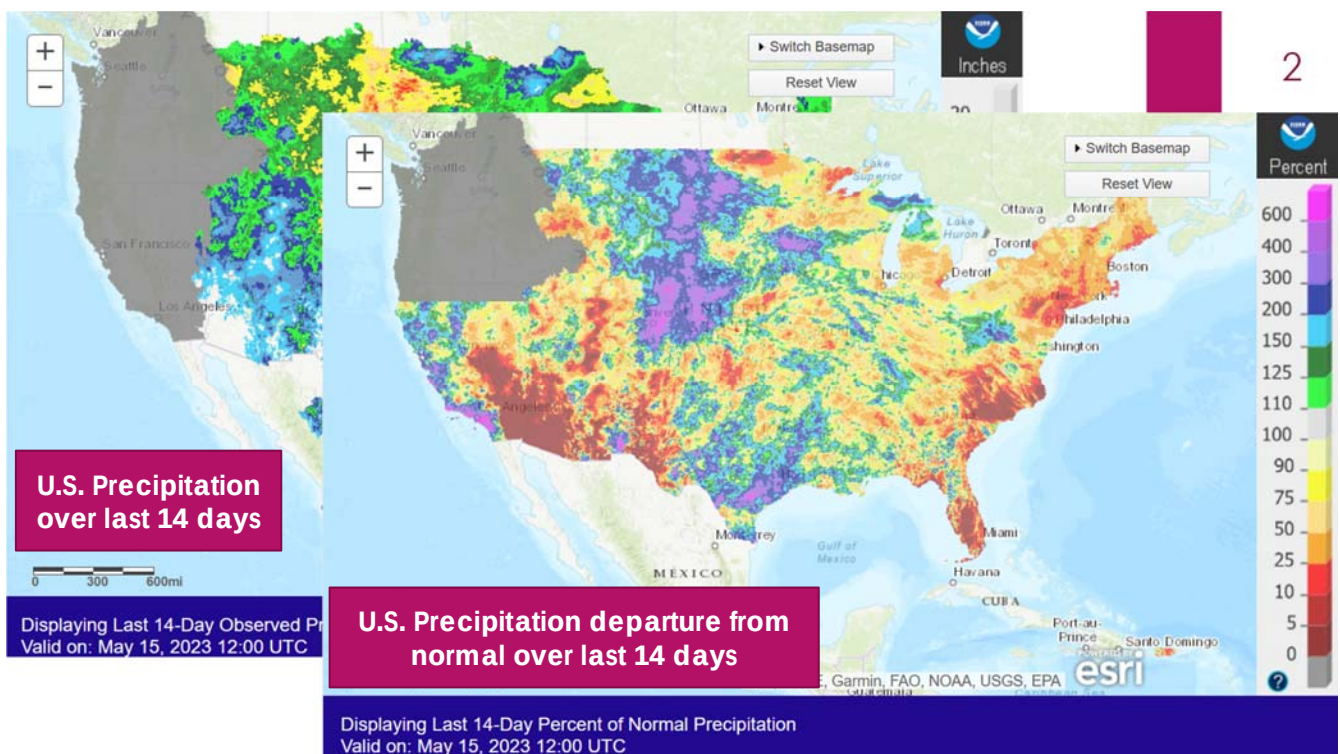
May 15, 2023

DANIEL O'BRIEN

EXTENSION AGRICULTURAL ECONOMIST

KANSAS STATE
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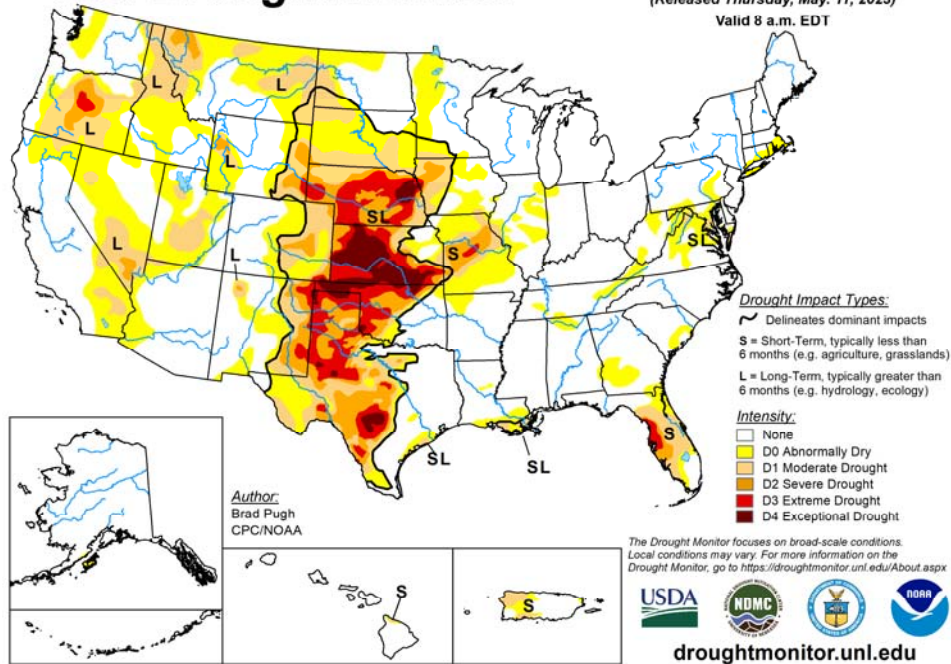
Department of Agricultural Economics



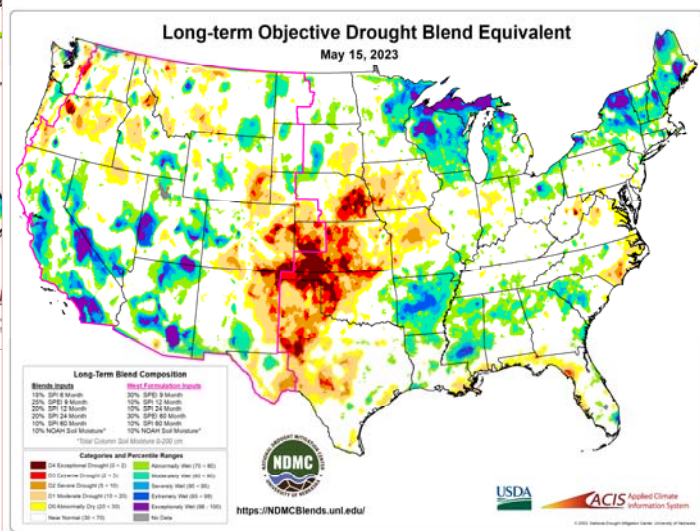
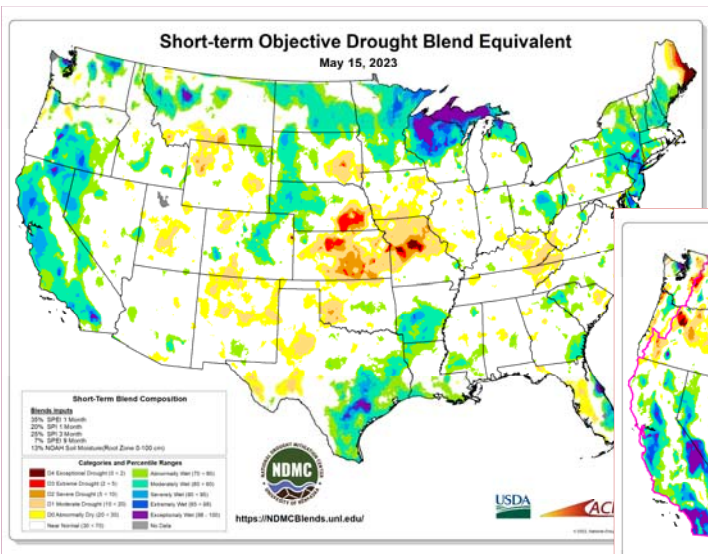
U.S. Drought Monitor

May 9, 2023
(Released Thursday, May. 11, 2023)
Valid 8 a.m. EDT

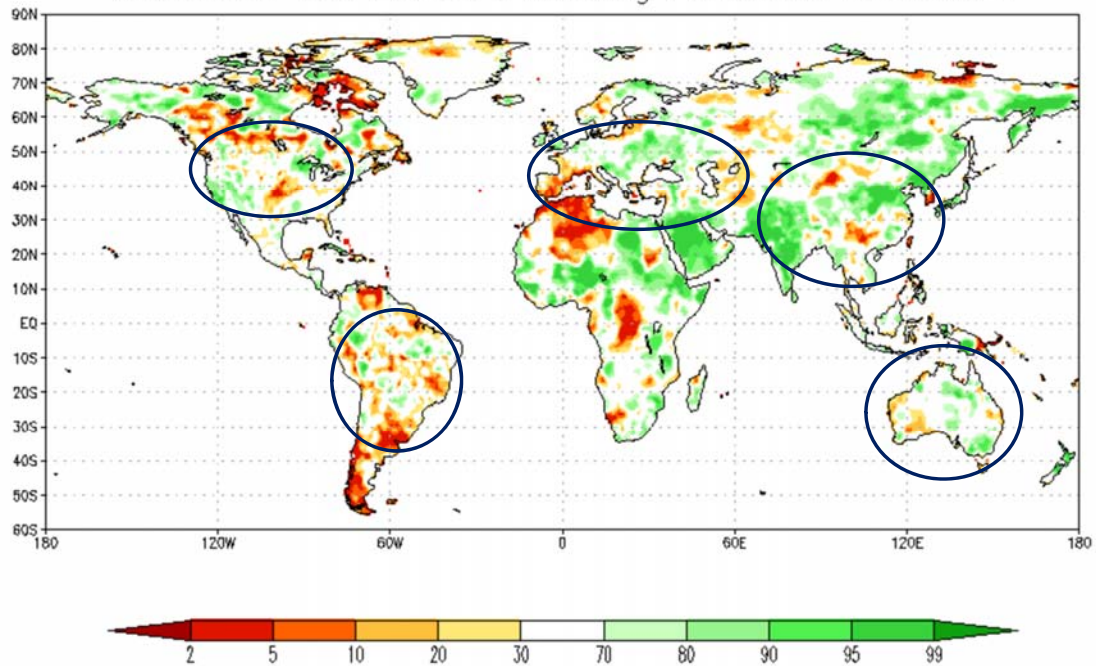
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Calculated Soil Moisture Ranking Percentile 20230513



5/8/2023 (early am)	Cash Grain & Harvest Contract Prices @ Kansas Grain Elevators					
	Representing the highest bids available at each location					
Cash Market Spot & FC Bids	Colby Area	Salina Area	Topeka Area	Garden City Area	Hutchinson Area	Columbus Area
	NW KS	NC KS	EC-NE KS	SW KS	SC KS	SE KS
Corn Spot Cash\$	\$6.90	\$6.59	\$6.50	\$7.45	\$6.92	\$6.75
Corn Spot Cash Basis	\$0.91	\$0.60	\$0.51	\$1.46	\$0.93	\$0.76
Corn Harvest FC\$: Fall 2023	\$5.45	\$5.20	\$5.05	\$6.00	\$5.35	\$5.10
Corn Harvest FCS Basis	\$0.10	(\$0.15)	(\$0.30)	\$0.65	\$0.00	(\$0.25)
Grain Sorghum Spot Cash\$	\$6.45	\$6.45	\$6.44	\$6.50	\$6.45	\$6.36
Sorghum Spot Cash Basis	\$0.46	\$0.46	\$0.45	\$0.51	\$0.46	\$0.37
Grain Sorghum Harvest FC\$: Fall 2022	\$5.05	\$5.20	\$5.05	\$5.25	\$5.09	\$4.90
Sorghum Harvest FCS Basis	(\$0.30)	(\$0.15)	(\$0.30)	(\$0.10)	(\$0.26)	(\$0.45)
Soybean Spot Cash\$	\$13.75	\$14.32	\$14.55	\$14.20	\$14.46	\$14.60
Soybean Spot Cash Basis	(\$0.70)	(\$0.13)	\$0.10	(\$0.25)	\$0.01	\$0.15
Soybean Harvest FC\$: Fall 2022	\$11.89	\$12.34	\$12.28	\$11.93	\$12.33	\$12.13
Soybean Harvest FCS Basis	(\$0.94)	(\$0.49)	(\$0.55)	(\$0.90)	(\$0.50)	(\$0.70)
KC HRW Wheat Harvest Spot Cash\$	\$8.19	\$8.49	\$8.35	\$8.21	\$8.51	\$8.22
HRW Wheat Harvest Spot Cash Basis	(\$0.29)	\$0.01	(\$0.13)	(\$0.27)	\$0.03	(\$0.26)
KC HRW Wheat FC\$ - Harvest 2023	\$8.07	\$8.19	\$8.15	\$8.21	\$8.25	\$7.94
HRW Wheat Harvest FCS Basis	(\$0.29)	(\$0.17)	(\$0.21)	(\$0.15)	(\$0.11)	(\$0.42)
"Spot Cash" Soybean vs Corn \$ Ratio	1.99	2.17	2.24	1.91	2.09	2.16
"New Crop" Soybean vs Corn \$ Ratio	2.18	2.37	2.43	1.99	2.30	2.38
"Spot Cash" HRW Wheat vs Corn \$ Ratio	1.19	1.29	1.28	1.10	1.23	1.22
"New Crop" HRW Wheat vs Corn \$ Ratio	1.48	1.58	1.61	1.37	1.54	1.56

Feedgrain Markets

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CME Corn Futures *Continuous Weekly to 5/12/2023*

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Corn Seasonal Prices *Kansas-U.S.*

Long Term Seasonal \$ Trends + MY 2022/23 & "Next" MY 2023/24 As of 5/12/2023



USDA Corn \$ Forecasts:

"Current"
MY 2022/23
 = \$6.60 /bu ^{U.S.}

"New Crop"
MY 2023/24
 = \$4.80 /bu ^{U.S.}

U.S. Corn Supply and Demand

Item	2022/2023		2023/2024	
	Estimate	Change from April 11	Forecast	Change from 2022/2023
Planted area (million acres)	88.6	--	92.0	3.4
Harvested area (million acres)	79.2	--	84.1	4.9
Yield (bushels per acre)	173.3	--	181.5	8.2
----- Million bushels -----				
Beginning stocks	1,377	--	1,417	40
Production	13,730	--	15,265	1,535
Imports	40	--	25	-15
Total supply	15,147	--	16,707	1,560
Feed and residual	5,275	--	5,650	375
Food, seed, and industrial	6,680	--	6,735	55
Ethanol	5,250	--	5,300	50
Domestic use	11,955	--	12,385	430
Exports	1,775	-75	2,100	325
Total use	13,730	-75	14,485	755
Ending stocks	1,417	75	2,222	805
----- Percent -----				
Stocks to use ratio	10.3	0.6	15.3	5.0
----- Dollars per bushel -----				
Average market price	6.60	--	4.80	-1.80

-- No change.

May 12, 2023

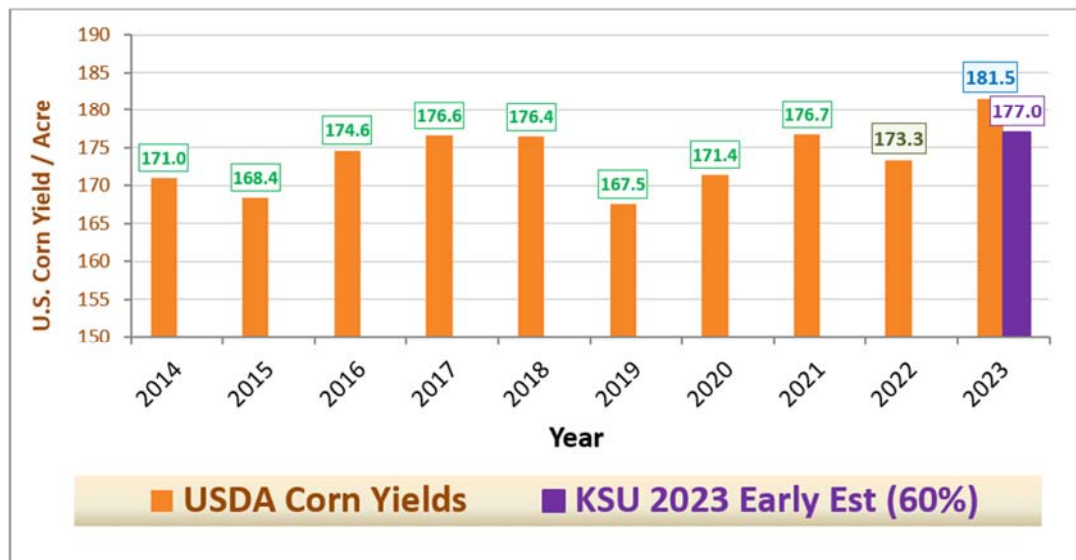
U.S. Corn Supply-Demand Balance Sheet

"Current" MY 2022/23 & Proj. "New Crop" MY 2023/24 as of the 5/12/2023 USDA WASDE + KSU Ests.

Item	USDA 2022/23 5/12/2023 WASDE 173.3 bu/ac 13.730 bb crop	A. USDA "New Crop" MY 2023/24 Scenario #1 "High Yields" = 181.5 bu/ac 15.265 bb crop	B. USDA "New Crop" MY 2023/24 Scenario #1 "Average Yields" = 177.0 bu/ac 14.885 bb crop
% Probability of Occurring (KSU)	80% ^{KSUest}	40% ^{KSUest}	60% ^{KSUest}
Planted Area (million acres)	88.579	91.996	91.996
Harvested Area (million acres)	79.207	84.096	84.096
% Harvested/Planted Area	89.42%	91.41%	91.41%
Yield / harvested acre (bu/ac)	173.3	181.5	177.0
Million Bushels			
Beginning Stocks (million bushels)	1,377	1,417	1,417
Production (million bu.)	13,730	15,263	14,885
Imports (million bu.)	40	25.0	25.0
Total Supply (million bu.)	15,147	16,707	16,327
Ethanol for fuel Use (million bu.)	5,250	5,300	5,300
Food & Industrial Use (mln bu.)	1,399	1,404	1,404
Seed Use (million bu.)	31	31	31
Exports (million bu.)	1,775	2,100	2,100
Feed & Residual Use (million bu.)	5,275	5,650	5,650
Total Use (million bu.)	13,730	14,485	14,485
Ending Stocks (million bu.)	1,417	2,222	1,842
% Ending Stocks-to-Use	10.32%	15.34%	12.72%
Days of Supply (% S/U x 365 days)	37.2 days	37.2 days	46.4 days
U.S. Corn Average Farm Price (\$/bushel)	\$6.60 ^{USDA} \$6.43 ^{KSU-Futures 4/21/2023}	\$4.80 ^{USDA} \$5.50 ^{KSU-Futures 5/12/2023}	\$5.50 ^{KSU} \$5.50 ^{KSU-Futures 5/12/2023}

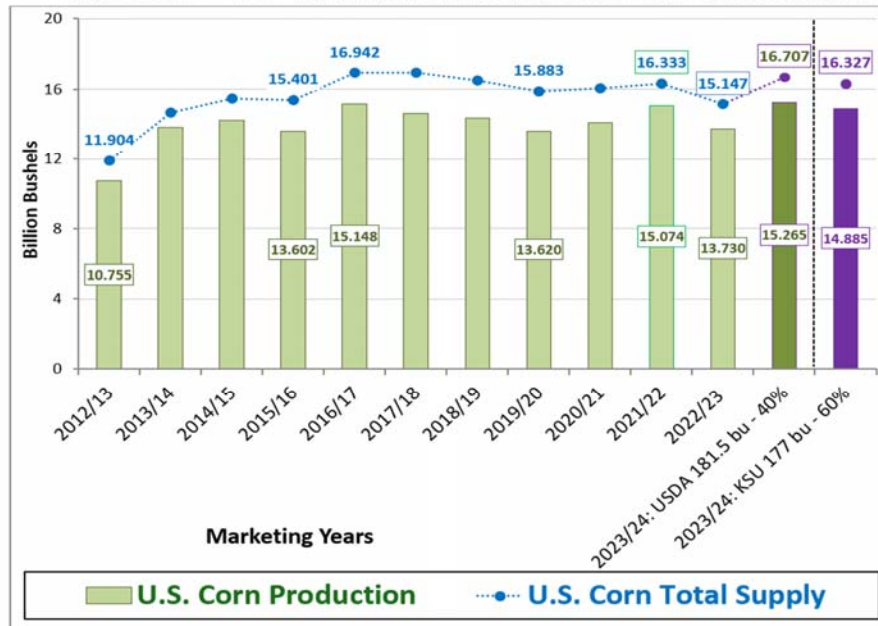
U.S. Corn Yields for 2014-2023

Through USDA reports on May 12, 2023



U.S. Corn Production & Total Supplies

MY 2009/10 - "New" MY 2023/24: As of the May 12, 2023 WASDE with KSU Estimates



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U.S. Corn Stocks & % Stocks-to-Use

MY 2012/13 thru "New Crop" MY 2023/24^{KSU Est} as of the May 12, 2023 USDA Reports

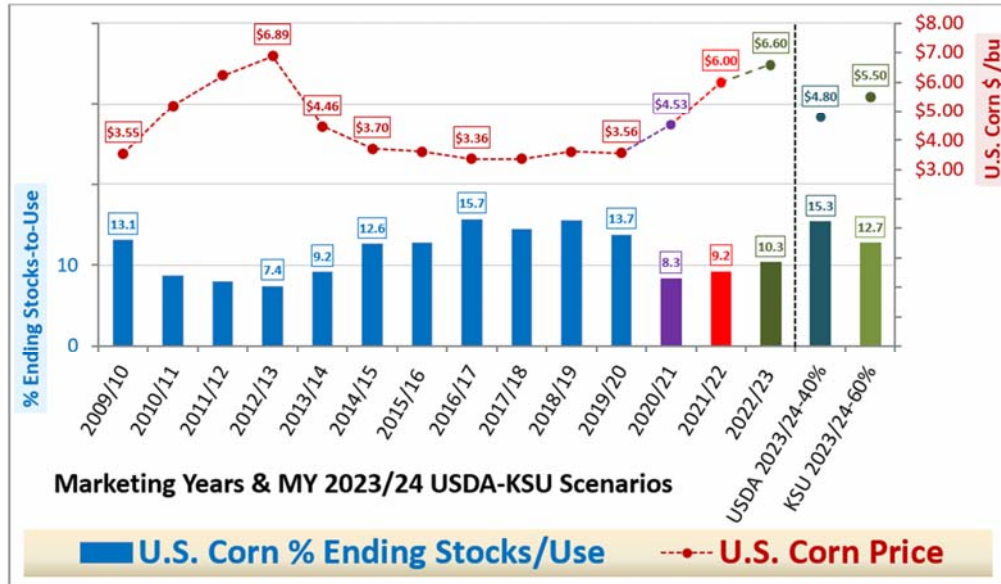


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U.S. Corn % Stocks/Use vs Corn \$

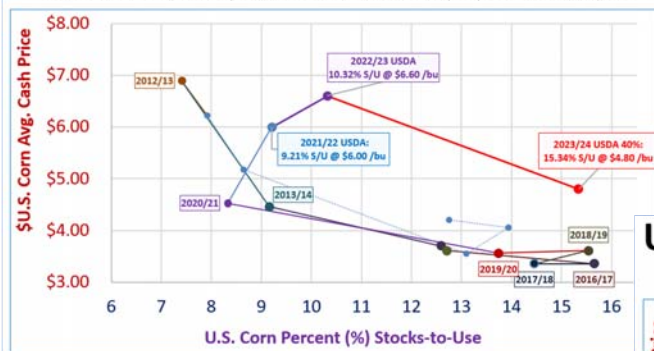
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MY 2009/10 – “New Crop” MY 2023/24 as of the 5/12/2023 USDA WASDE + KSU Ests.



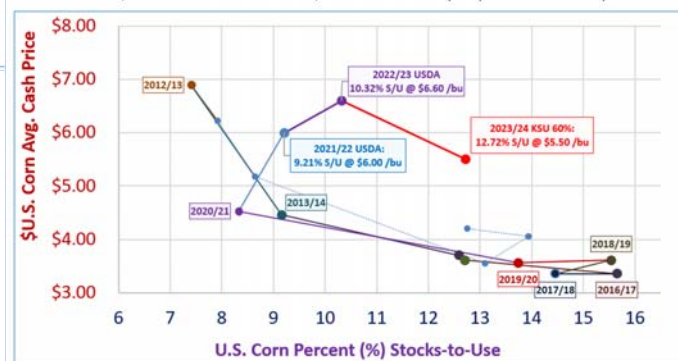
US Corn \$ vs US % Stocks-to-Use^{181.5 bu 40%}

MY 2007/08 - “New Crop” MY 2023/24 as of the May 12, 2023 USDA Reports



US Corn \$ vs US % Stocks-to-Use^{177 bu 60%}

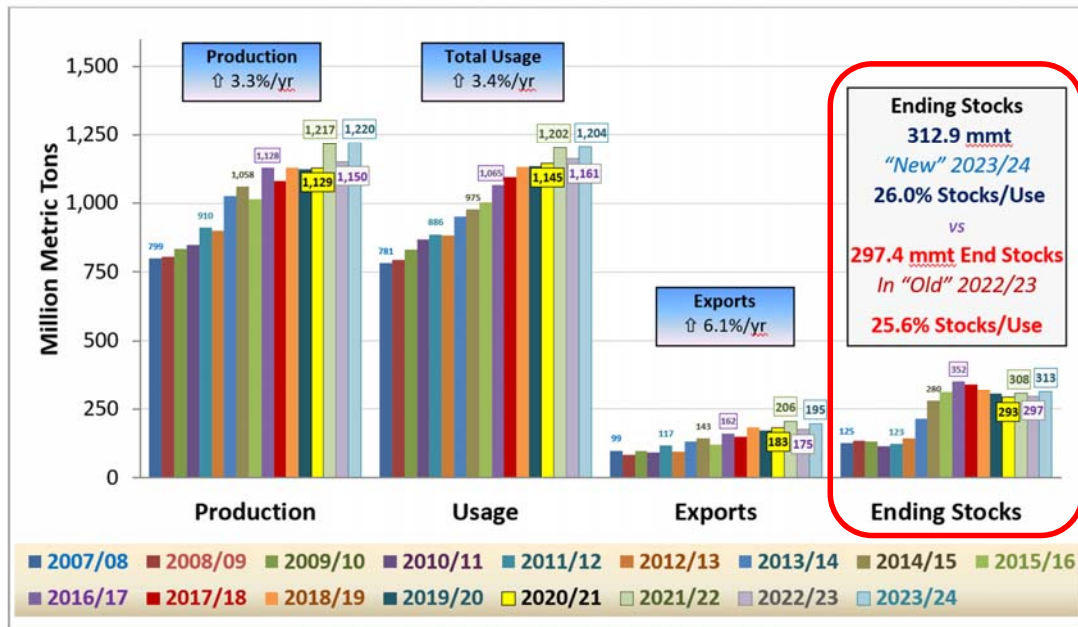
MY 2007/08 - “Current” MY 2022/23 as of the May 12, 2023 USDA Reports



World Corn Supply-Demand

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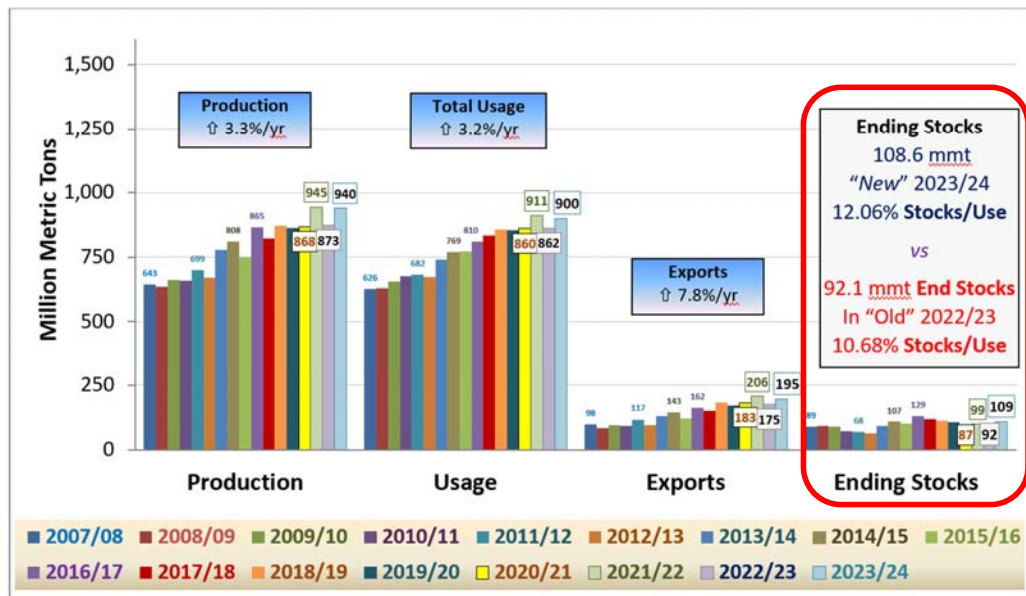
MY 2007/08 – “New Crop” MY 2023/24 as of the May 12, 2023 USDA WASDE Report



“World Less-China” Corn Supply-Demand

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MY 2007/08 – “Current” MY 2022/23 as of the May 12, 2023 USDA WASDE Report



World vs World^{Less-China} Corn % Stocks-to-Use

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MY 2007/08 through "Current" MY 2022/23, as of the May 12, 2023 USDA WASDE report.



Argentina Corn Supply-Demand

MY 2007/08 – "New Crop" 2023/24, as of the May 12, 2023 USDA WASDE report



Brazil Corn Supply-Demand

MY 2007/08 – "New Crop" MY 2023/24, as of the May 12, 2023 USDA WASDE report



Ukraine Corn Supply-Demand

MY 2007/08 – “New Crop” 2023/24, as of the May 12, 2023 USDA WASDE report



China Corn Supply-Demand

MY 2007/08 – “New Crop” MY 2023/24, as of the May 12, 2023 USDA WASDE report



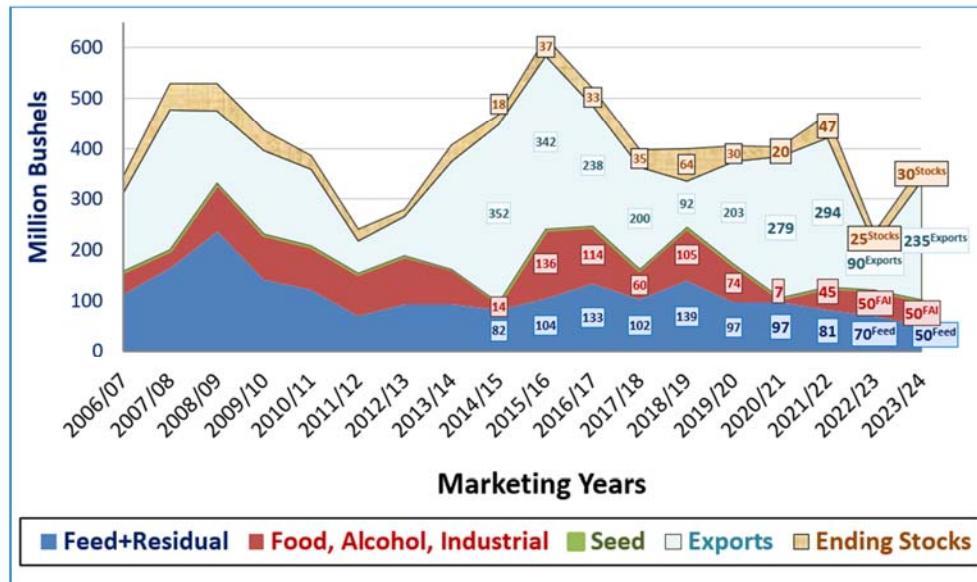
U.S. Grain Sorghum Supply-Demand for MY 2023/24

“New Crop” MY 2023/24 as of the April 11, 2023 USDA WASDE report, with Alternative KSU “New Crop” 2023/24 Market Scenarios

Item	A. USDA “New Crop” MY 2023/24 as of 5/12/2023	B. KSU Adjusted USDA “New Crop” MY 2023/24 Lower Yield = 63 bu/ac 2023 Production = 334 mln. bu.	C. KSU Adjusted USDA “New Crop” MY 2023/24 Even Lower Yields = 56 bu/ac 2023 Production = 297 mln. bu.
% Probability of Occurring (KSU)	50% KSU Estimate	25% KSU Estimate	25% KSU Estimate
Planted Area (million acres)	5.975	5.975	5.975
Harvested Area (million acres)	5.308	5.308	5.308
% Harvested/Planted Area	88.8%	88.8%	88.6%
Yield / harvested acre (bu/ac)	69.2	63.0	56.0
Beginning Stocks (million bushels)	25	25	25
Production (million bu.)	360	334	297
Imports (million bu.)	0.05	0.05	0.05
Total Supply (million bu.)	385	359	322
Food & Industrial Use (mln. bu.)	49	49	49
Seed Use (million bu.)	0.86	0.86	0.86
Exports (million bu.)	235	214	182
Feed & Residual Use (million bu.)	70	70	70
Total Use (million bu.)	355	334	302
Ending Stocks	30	25	20
% Ending Stocks-to-Use	8.45%	7.49%	6.62%
Days of Supply (% S/U x 365 days)	30.8 days	27.3 days	24.2 days
U.S. Grain Sorghum Avg. Farm Price (\$ / bushel)	\$4.80 USDA	\$6.00 KSU	\$6.75 KSU

U.S. Sorghum Use & End Stocks

MY 2006/07 - "New Crop" MY 2023/24 as of USDA Information available on May 12, 2023



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Soybean Markets

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CME Soybean Futures *Continuous Weekly to 5/12/2023*

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ELEC. SOYBEANS (@S2023N) CME "Old Crop" JULY 2023 Soybean Futures

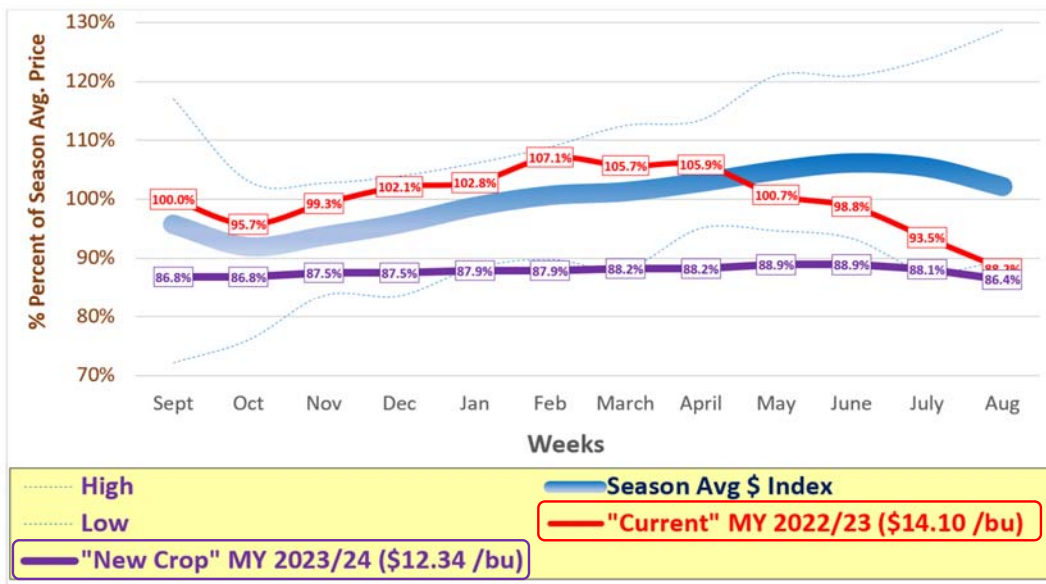
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Soybean Seasonal Prices *Kansas-U.S.*

Long Term Seasonal \$ Trends + MY 2022/23 & "Next" MY 2023/24 As of 5/12/2023



U.S. Prices for Soybeans USDA

"Current"
MY 2022/23
= \$14.20 /bu U.S.

"New Crop"
MY 2023/24
= \$12.10 /bu U.S.

U.S. Soybeans Supply and Demand

Item	2022/2023		2023/2024	
	Estimate	Change from April 11	Forecast	Change from 2022/2023
Planted area (million acres)	87.5	--	87.5	0.1
Harvested area (million acres)	86.3	--	86.7	0.4
Yield (bushels per acre)	49.5	--	52.0	2.5
----- Million bushels -----				
Beginning stocks	274	--	215	-59
Production	4,276	--	4,510	234
Imports	20	5	20	0
Total supply	4,571	5	4,745	175
Crush	2,220	--	2,310	90
Seed and Residual	120	--	126	5
Domestic use	2,340	--	2,436	95
Exports	2,015	--	1,975	-40
Total use	4,355	--	4,411	55
Ending stocks	215	5	335	119
----- Percent -----				
Stocks to use ratio	4.9	0.1	7.6	2.6
----- Dollars per bushel -----				
Average market price	14.20	-0.10	12.10	-2.10

-- No change.

May 12, 2023

U.S. Soybean Supply-Demand Balance Sheet

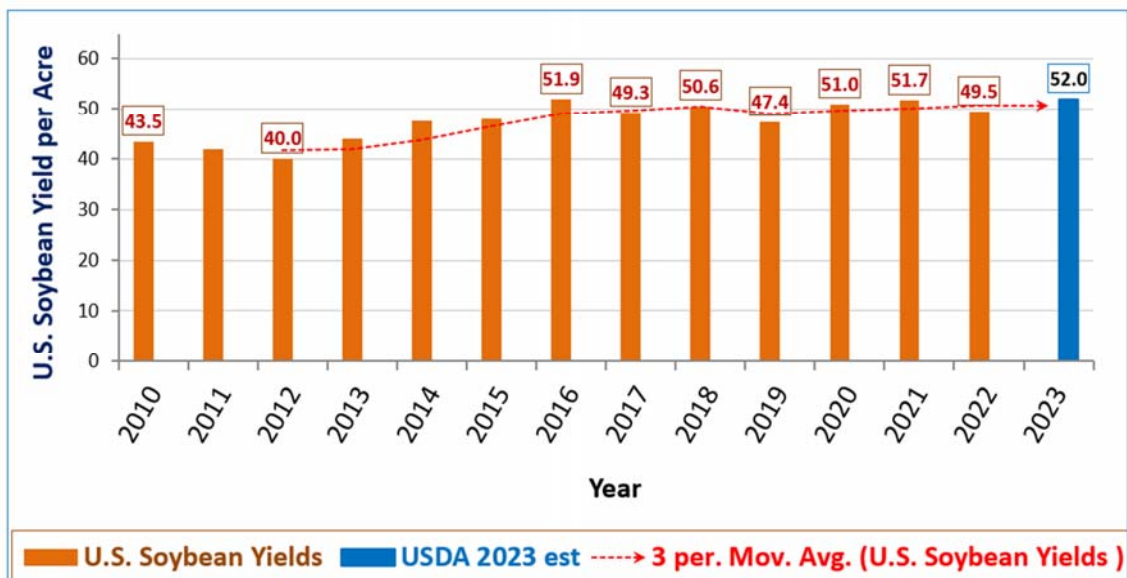
"New Crop" MY 2023/24 as of the April 11, 2023 USDA WASDE with KSU Scenarios

Item	A. USDA WASDE "New Crop" 2023/24 May 12, 2023	B. KSU Scenario #1 "New Crop" 2023/24 Less Yield: 50.5 bu/ac + Rationed Use	C. KSU Scenario #2 "New Crop" 2022/23 Lower Yield: 49.0 bu/ac + More Rationed Use
% Probability of Occurring (KSU)	50% ^{KSUest}	35% ^{KSUest}	15% ^{KSUest}
Planted Area (million acres)	87.505	87.505	87.505
Harvested Area (million acres)	86.731	86.731	86.731
% Harvested/Planted Area	99.12%	99.12%	99.12%
Yield / harvested acre (bu/ac)	52.0	50.5	49.0
Beginning Stocks (million bushels)	215	215	215
Production (million bu.)	4,510	4,380	4,249
Imports (million bu.)	20	20	20
Total Supply (million bu.)	4,745	4,615	4,484
Domestic Crushings	2,310	2,310	2,310
Exports	1,975	1,975	1,925
Seed	101	101	101
Residual	25	25	25
Total Use	4,411	4,411	4,361
Ending Stocks	335	204	123
% Ending Stocks-to-Use	7.59%	4.62%	2.82%
Days of Supply (% S/U x 365 days)	27.7 days	16.9 days	10.3 days
U.S. Avg. Farm Price (\$/bu)	\$12.10 ^{USDA} \$12.34 ^{KSU 4/24/2023}	\$14.40 ^{KSU}	\$15.50 ^{KSU}

U.S. Soybean Yields: 2010-2023

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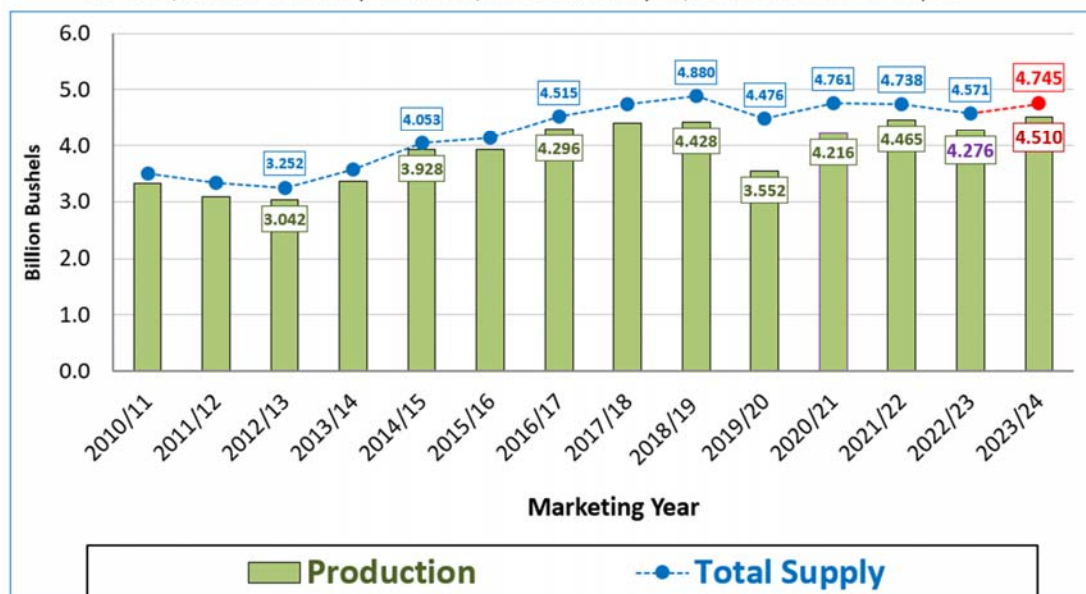
As of the May 12, 2023 USDA WASDE & ERS Reports



U.S. Soybean Production & Supply

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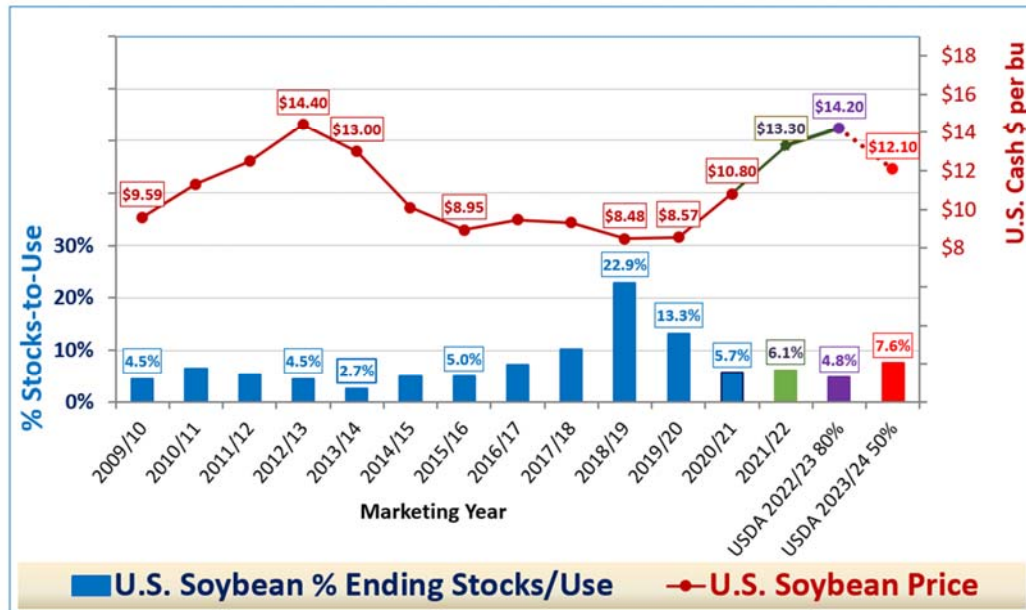
MY 2010/11 thru "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE Report



U.S. Soybean % Stocks/Use vs U.S. \$'s

MY 2009/10 – “Next Crop” 2023/24 as of May 12, 2023 USDA Reports

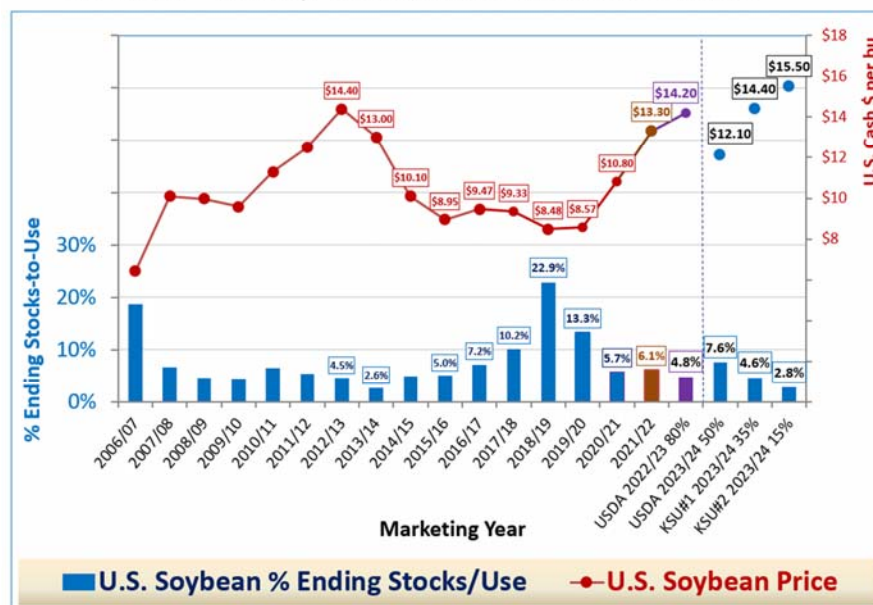
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U.S. Soybean % Stocks/Use vs U.S. Cash \$

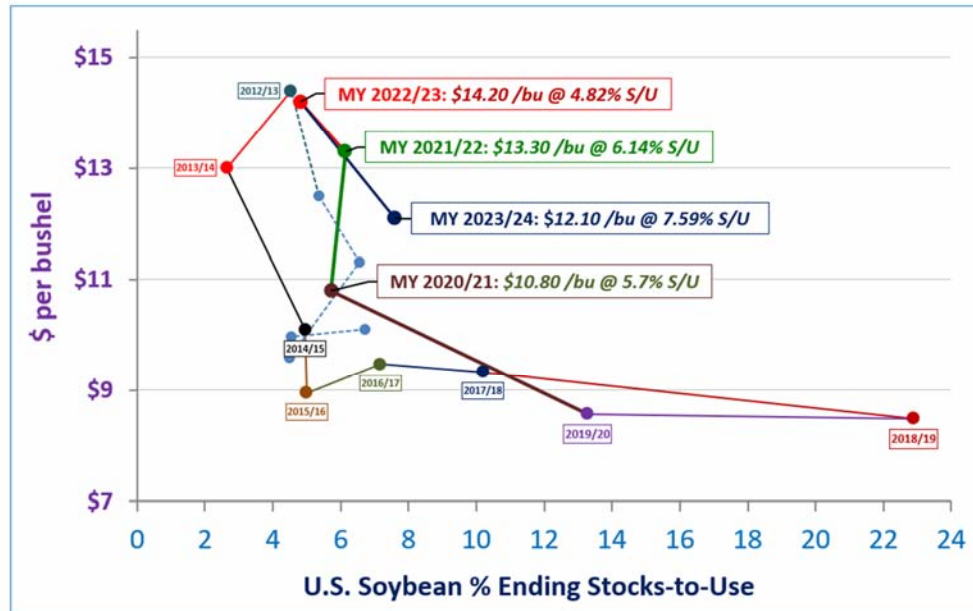
MY 2006/07 – “New Crop” MY 2023/24 as of the May 12, 2023 USDA Reports

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U.S. Soybean \$ vs U.S. % Stocks/Use

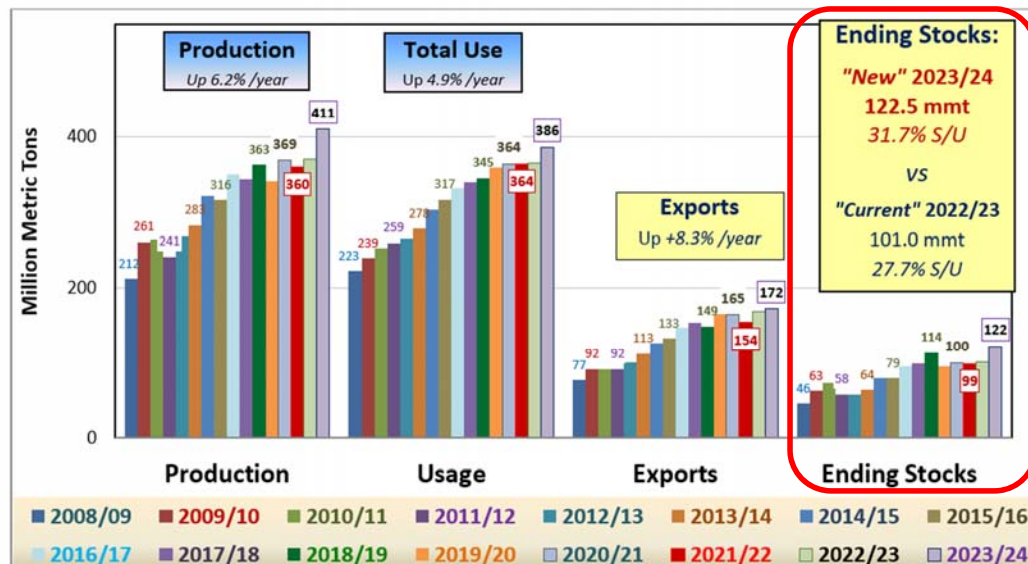
MY 1973/74 thru "New" MY 2023/24 as of the May 12, 2023 USDA Report



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World Soybean Usage & End Stocks

MY 2008/09 thru "New Crop" MY 2022/23 as of the May 12, 2023 WASDE

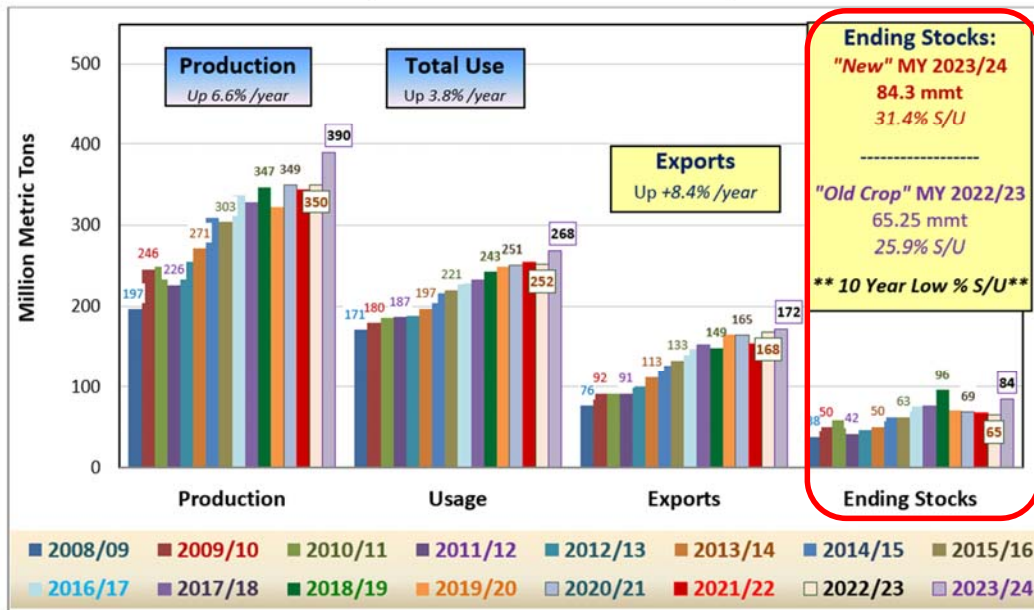


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World *Less-China* Soybean Use & End Stocks

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MY 2008/09 - "New Crop" MY 2023/24 as of the May 12, 2023 WASDE



World vs "World *Less-China*" Soybean % Stocks/Use

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MY 2007/08 through "Current" MY 2022/23, as of the April 11, 2023 USDA WASDE report



Argentina Soybean Supply-Demand

MY 2007/08 – "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE Report



Brazil Soybean Supply-Demand

MY 2007/08 – "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE Report



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Wheat Markets

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CME HRW Wheat Futures *Continuous Weekly to 5/12/2023*

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KE - Wheat (Kansas) (Electronic) - Weekly Chart

Change: 19.750

05/15/2023 O: 877.750 H: 912.250 L: 872.750 C: 897.500 Vol: 19868 OI: 188395



ELEC. HRW WHEAT (@KW2023N)

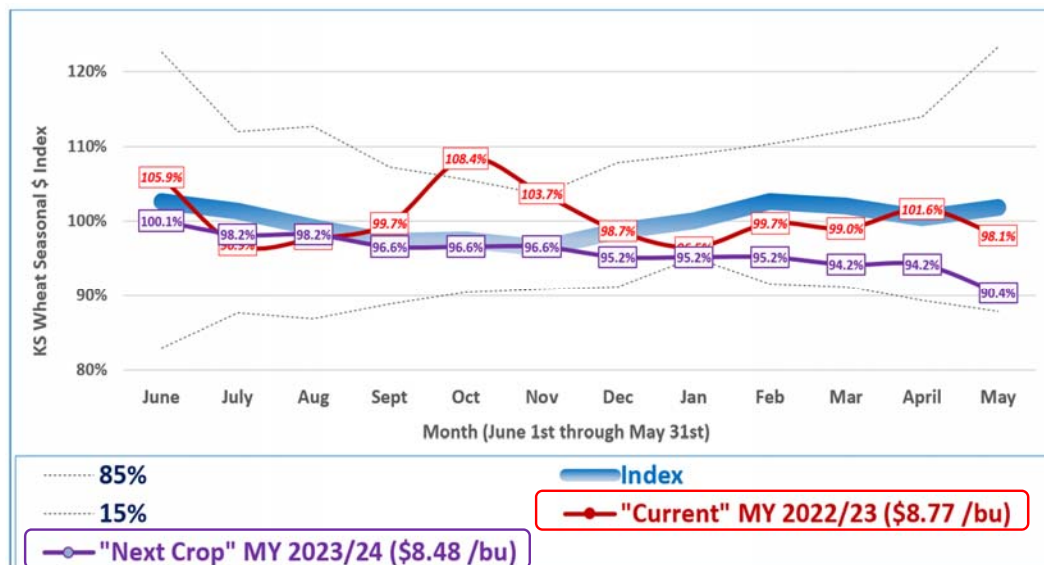
CME "New Crop" JULY 2023 HRW Wheat

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HRW Wheat Seasonal Prices *Kansas-U.S.*

Long Term Seasonal \$ Trends + MY 2022/23 & "New" MY 2023/24 As of 5/12/2023



**U.S. Prices for
Wheat** *USDA*

"Current"
MY 2022/23
= \$8.85 /bu *U.S.*

"Next"
MY 2023/24
= \$8.00 /bu *U.S.*

USDA Office of the Chief Economist
United States Department of Agriculture

U.S. Wheat Supply and Demand

Item	2022/2023		2023/2024	
	Estimate	Change from April 11	Forecast	Change from 2022/2023
Planted area (million acres)	45.7	--	49.9	4.1
Harvested area (million acres)	35.5	--	37.1	1.6
Yield (bushels per acre)	46.5	--	44.7	-1.8
----- Million bushels -----				
Beginning stocks	698	--	598	-100
Production	1,650	--	1,659	9
Imports	125	--	135	10
Total supply	2,473	--	2,393	-81
Food use	975	--	977	2
Seed	70	--	65	-5
Feed and residual	55	--	70	15
Domestic use	1,100	--	1,112	12
Exports	775	--	725	-50
Total use	1,875	--	1,837	-38
Ending stocks	598	--	556	-43
----- Percent -----				
Stocks to use ratio	31.9	--	30.2	-1.7
----- Dollars per bushel -----				
Average market price	8.85	-0.05	8.00	-0.85

-- No change.

May 12, 2023

U.S. Wheat Market Outcomes for MY 2023/24^{KSU}

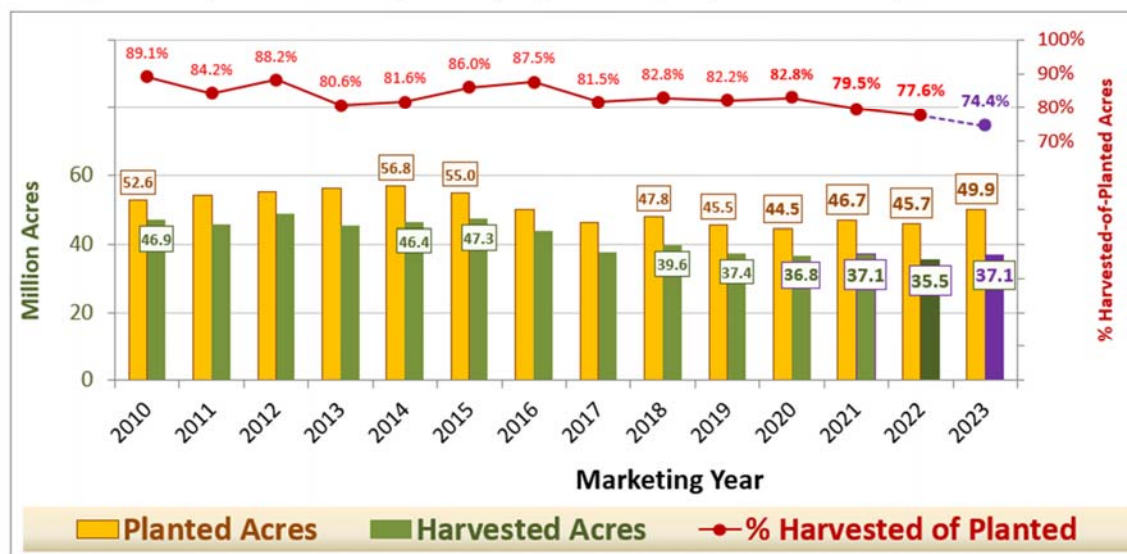
USDA & KSU Projections based on the April 11, 2023 USDA WASDE Report + KSU Scenarios

Item	USDA "New Crop" 2023/24 May 12, 2023 WASDE	KSU Scenario #1 "New" 2023/24 USDA: 43.0 bu/ac 29.1% Stocks/Use	KSU Scenario #2 "New" 2023/24 KSU: 41.5 bu/ac 28.2% Stocks/Use	KSU Scenario #2 "New" 2023/24 KSU: 40.0 bu/ac 27.25% Stocks/Use
% Probability of Happening ^{KSU est.}	50% prob	30% prob.	15% prob	5% prob.
Planted Area (million acres)	49.855	49.855	49.855	49.855
Harvested Area (million acres)	37.114	37.114	37.114	37.114
% Harvested/Planted Area	74.44%	74.44%	74.44%	74.44%
Yield / harvested acre (bu/ac)	44.7	43.0	41.5	40.0
Million				
Beginning Stocks	598	598	598	598
Production	1,659	1,596	1,540	1,485
Imports	135	135	135	135
Total Supply (million bushels)	2,393	2,329	2,273	2,218
Food Use	977	977	977	977
Seed Use	65	65	65	65
Exports	725	697	671	646
Feed & Residual Use	70	65	60	55
Total Use (million bushels)	1,837	1,804	1,773	1,743
Ending Stocks (million bushels)	556	525	500	475
% Ending Stocks-to-Use	30.27%	29.11%	28.20%	27.25%
Days of Supply (% S/U x 365 days)	110 days	106 days	103 days	99 days
U.S. Wheat Avg. Farm Price (\$/bushel)	\$8.00 Vs \$8.48 /bu. KSU-HRW Futures	\$8.25 Vs \$8.48 /bu. KSU-HRW Futures Forecast	\$8.60 Vs \$8.48 /bu. KSU-HRW Futures Forecast	\$9.05 Vs \$8.48 /bu. KSU-HRW Futures Forecast

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U.S. Wheat Planted & Harvested Acreage

(MY 2010/11 – "New Crop" 2023/24) as of May 12, 2023 USDA Reports

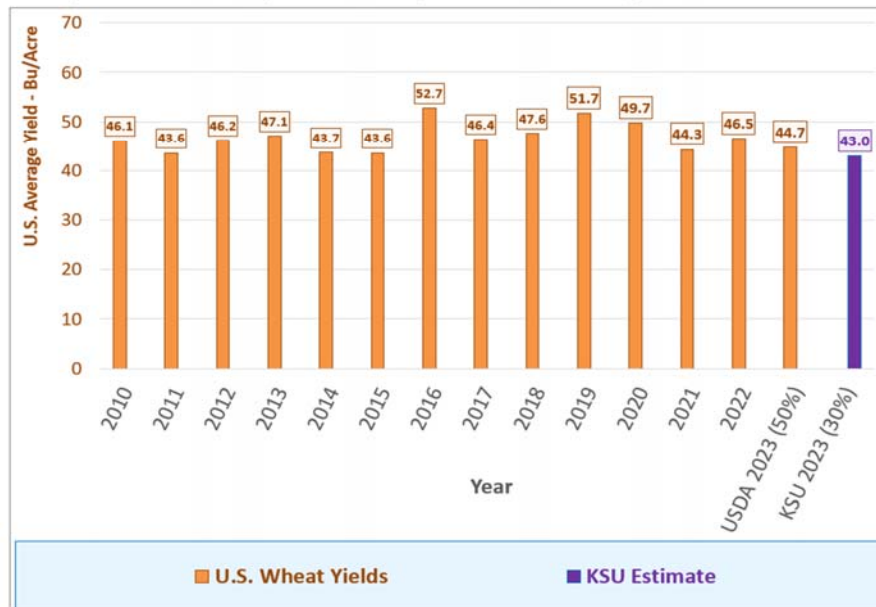


48

U.S. Wheat Yield

(Years 2010-2023) as of the May 12, 2023 USDA Reports

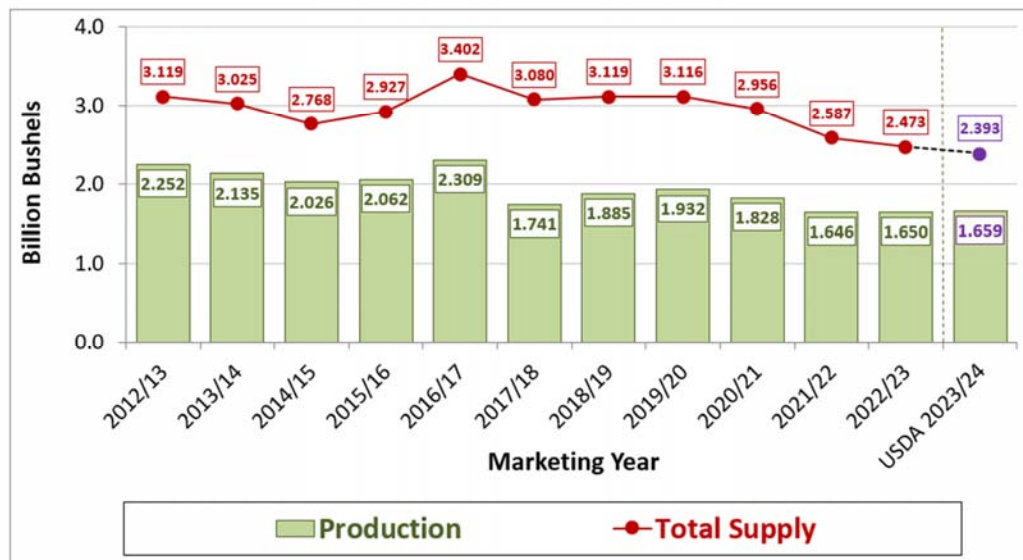
49



U.S. Wheat Total Supplies

MY 2012/13 – Projected MY 2023/24 as of the May 12, 2023 USDA WASDE

50



U.S. Wheat Ending Stocks & % S/U

MY 2006/07 thru "New Crop" MY 2023/24 – May 12, 2023 USDA WASDE



51

U.S. Wheat % Stocks/Use vs Cash \$'s

MY 2009/10 thru "New Crop" MY 2023/24 – As of the May 12, 2023 USDA WASDE

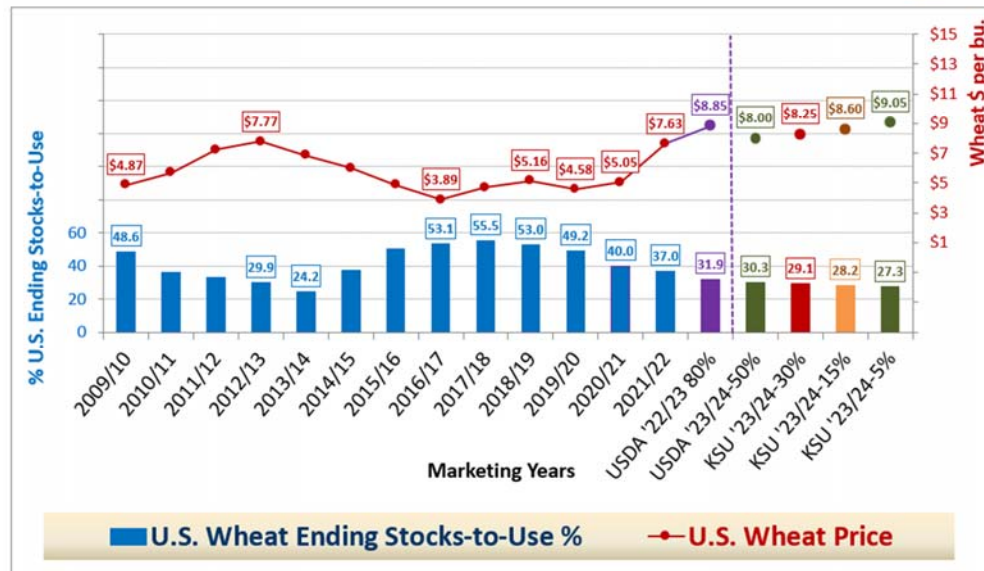


52

U.S. Wheat % Stocks/Use vs U.S. Cash \$'s

53

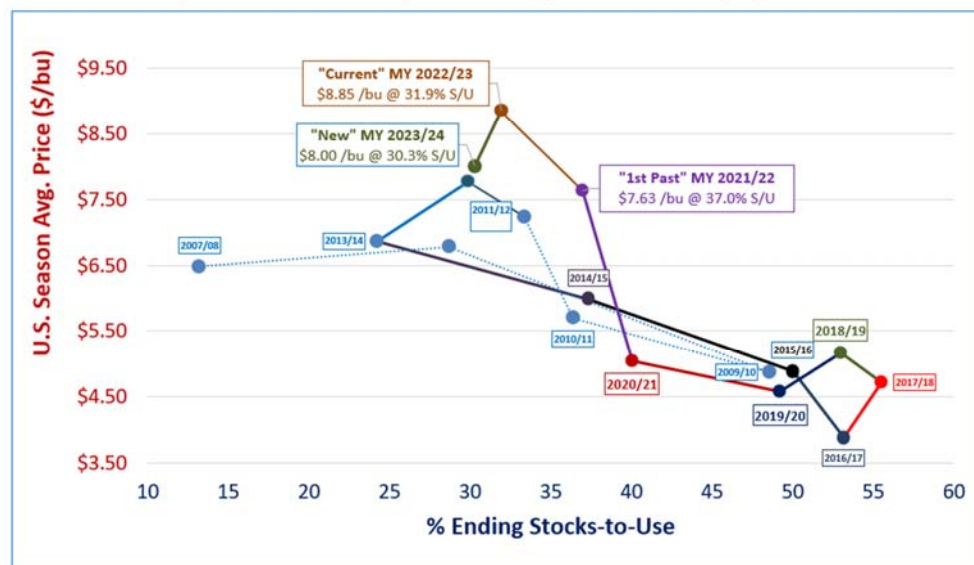
MY 2009/10 thru "New Crop" 2023/24 – As of the May 12, 2023 WASDE + KSU Ests.



U.S. Wheat Price vs % End Stocks-to-Use

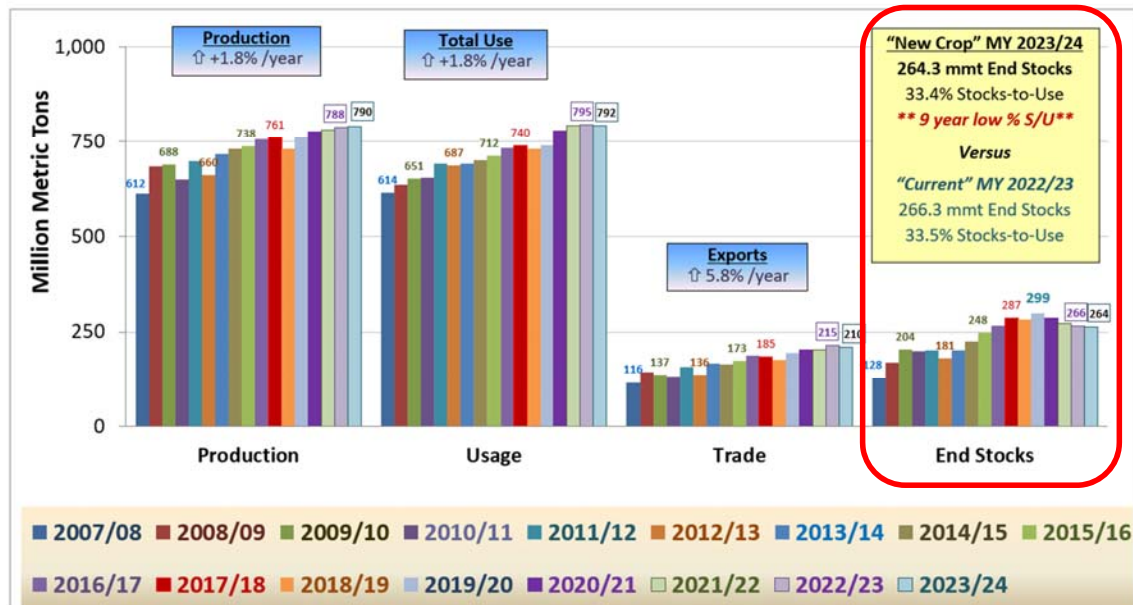
54

MY 2007/08 thru "New Crop" MY 2023/24 – As of the May 12, 2023 USDA WASDE



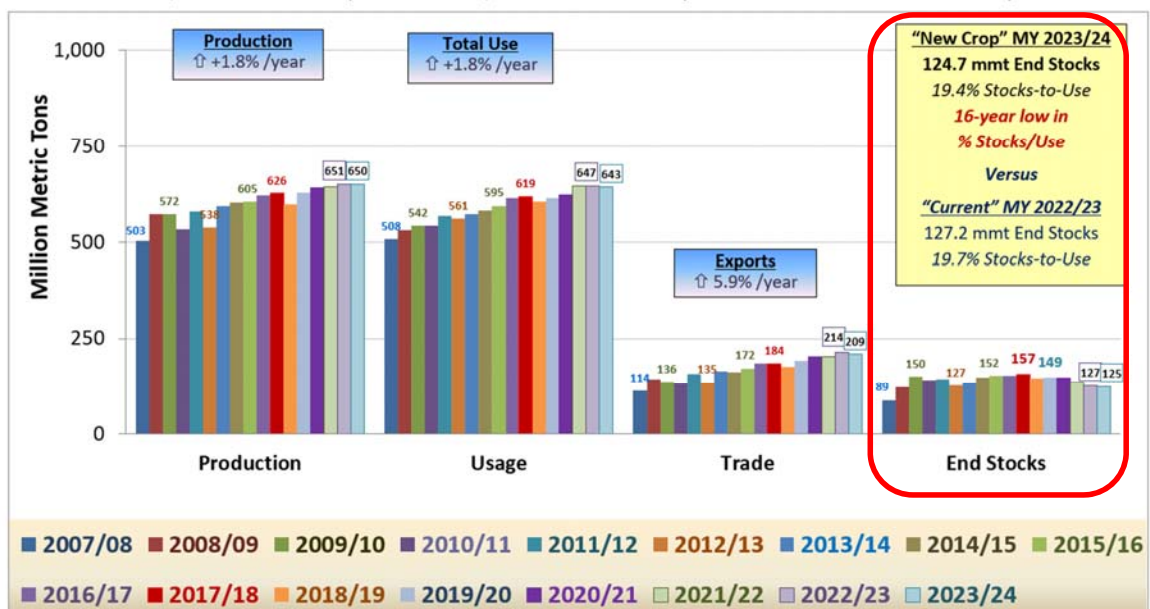
World Wheat Usage & Ending Stocks

MY 2007/08 - "New Crop" 2023/24 as of the May 12, 2023 USDA WASDE Report



"World Less-China" Wheat Usage & Ending Stocks

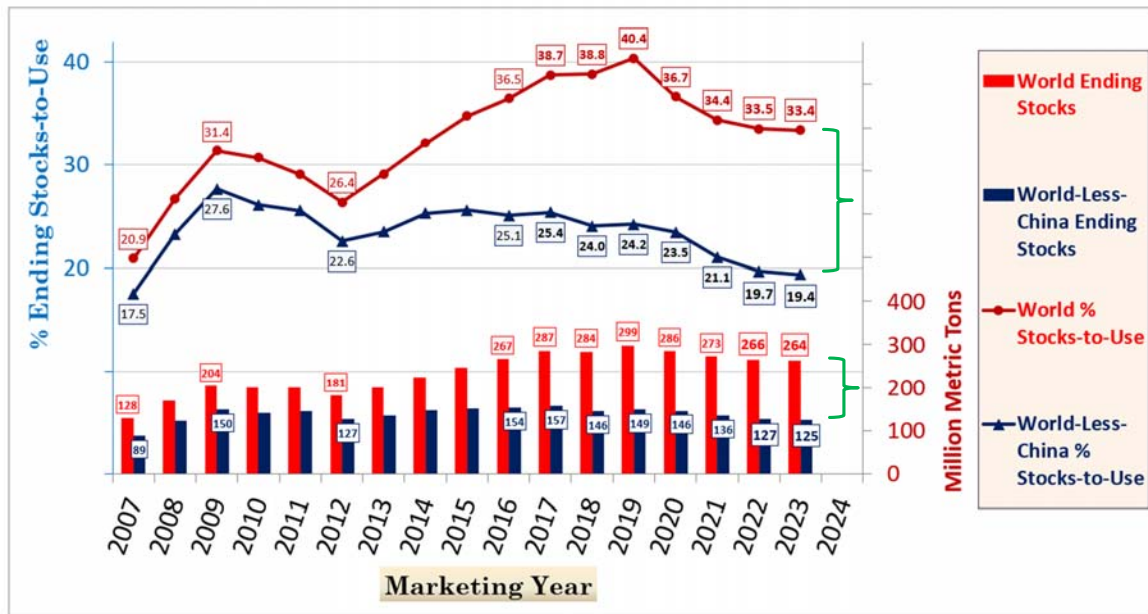
MY 2007/08 - "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE Report



World vs "World Less-China" Wheat Stocks & % S/U

57

MY 2007/08 through "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE report



Ukraine Wheat Supply-Demand

MY 2013/14 – "New Crop" MY 2023/24 as of the May 12, 2023 USDA WASDE report



Russia Wheat Supply-Demand

MY 2013/14 – "New Crop" 2023/24 as of the May 12, 2023 USDA WASDE report





Questions?

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