Feedgrain Market Outlook for 2020 - 2021

2020 "Winning the Game" Workshop

KFMA Ag Economists - Abilene, KS, 9/3/3030

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Department of Agricultural Economics



Corn & Sorghum Markets







KANSAS STATE

Department of Agricultural Economic

	More Info	Month	Last	Chg	% Chg	Open	High	Low	Previous	Volume	Open Int
chart	options	Sep-20	350'0	0'2	0.07	349'6	350'0	348'6	349'6	2609	3074
chart	serial options	Oct-20			0						
chart	serial options	Nov-20			0						
chart	options	Dec-20	358'2	-0'4	-0.14	358'2	359'0	357'2	358'6	160792	811031
chart	options	Mar-21	368'6	-0'4	-0.14	368'4	369'2	367'6	369'2	70518	224083
chart	options	May-21	375'0	-0'6	-0.2	375'0	375'6	374'2	375'6	21512	73550
chart	options	Jul-21	379'2	-0'2	-0.07	379'0	379'6	378'4	379'4	12704	98132
chart	options	Sep-21	377'4	0'2	0.07	377'4	377'6	376'4	377'2	1375	39044
chart	options	Dec-21	383'6	0'2	0.07	383'2	383'6	382'6	383'4	10707	124174
chart	options	Mar-22	392'6	0'6	0.19	391'4	392'6	391'4	392'0	747	5647
chart	options	May-22	397'2	0'0	0	397'2	397'2	397'2	397'2	3	898
chart	options	Jul-22	401'4	0'4	0.12	400'6	401'4	400'6	401'0	178	2530
chart	options	Sep-22	391'4s	2'0	0.51	391'2	391'4	391'2	389'4	3	354
chart	options	Dec-22	395'4	0'4	0.13	394'6	395'4	394'4	395'0	160	3873
chart	options	Jul-23	408'0	-0'2	-0.06	408'0	408'0	408'0	408'2	10	232
chart	options	Dec-23	396'45	0'4	0.13	394'4	394'6	394'4	396'0	2	674
	i.	Thu, Sep 3, 2	2020 6:25 AI	M CDT	*Quotes are i	n market tin	ne				

Key Grain Market Issues in 2020-2021

■ U.S. Corn & Soybean Production Prospects

- Planted & Harvested Acreage? (Corn*** & Soybeans)
- Crop Yields?
 - o Generally Good Conditions ⇒ Dry in Iowa, Indiana, Ohio
 - o "Derecho" Windstorm damage in Iowa on August 10th
 - Estimates of at least 300-600 million bushels still doing "the math" for how blown down corn in August will yield
- Strong U.S. Grain Sorghum Exports to China

What is a derecho? An atmospheric scientist explains these rare but dangerous storm systems



43% of lowa corn, soybean crop hit by Monday's storm **RADIOOWA**

AUGUST 11, 2020 BY O. KAY HENDERSON

Governor Kim Reynolds says an initial estimate indicates 10 million acres of Iowa cropland "was impacted" by yesterday's storm.

"This morning I had a farmer reach out to me to say that this was the worst wind damage to crops and farm buildings that he has ever seen across the state in such a wide area," Reynolds said during a news conference late this morning.

According to the U.S.D.A., 23.4 million acres was seeded with corn and soybeans this spring, so this early estimate indicates 43 percent of lowa's 2020 corn and soybean crop has been damaged or



Flattened crops shown during the governor's news conference.

"When I say 10 million acres, that is really an early estimate," Reynolds said. "Some of the photos have just been devastating."

Reynolds is planning an aerial review of the damage.

"I'm hoping tomorrow with the Department of Public Safety I am able to do a fly around so I can get some sense of what that agricultural damage looks like," Reynolds said, "but multiple bins, hoop buildings, sheds are gone."



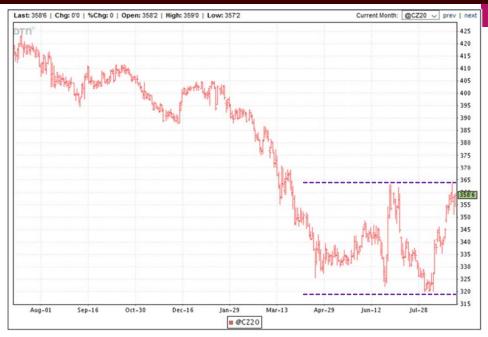
State officials advise farmers to take photos of the damage to crops and farm buildings and consult with their insurance carriers. Reynolds told reporters the state has experience seeking federal help to cover grain losses in destroyed bins after the flooding in southwest lowa last year.





CME DEC 2020 Corn Futures

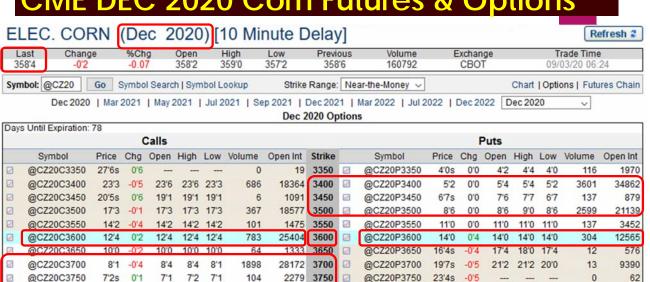
Like Reply 4h



CME DEC 2020 Corn Futures



CME DEC 2020 Corn Futures & Options



105 899 3850 ☑ @CZ20P385

In the money At the money

Quotes generated on: Thu, Sep 3, 2020 6:37 AM CDT

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@CZ20P3850 31'2s -0'6

27'4 27'4 27'4

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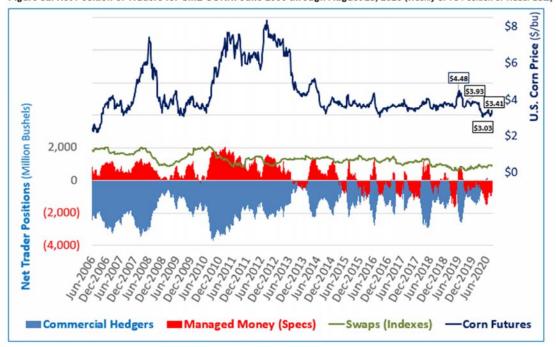
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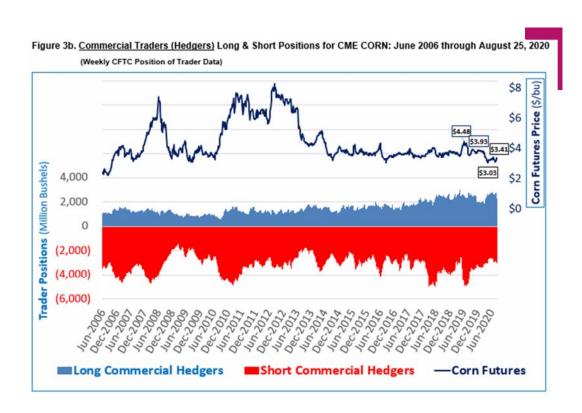
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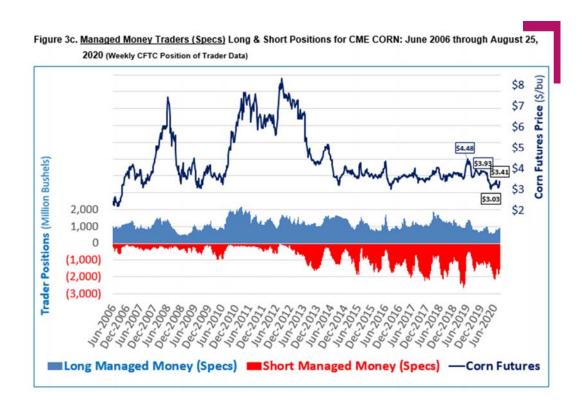
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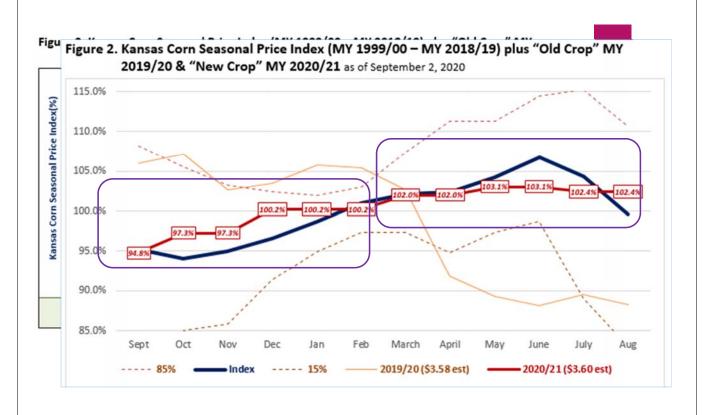
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Figure 3a. Net Position of Traders for CME CORN: June 2006 through August 25, 2020 (Weekly CFTC Position of Trader Data)









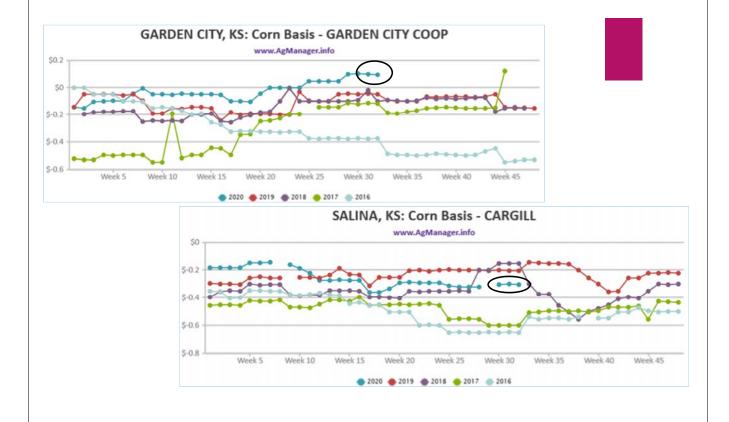
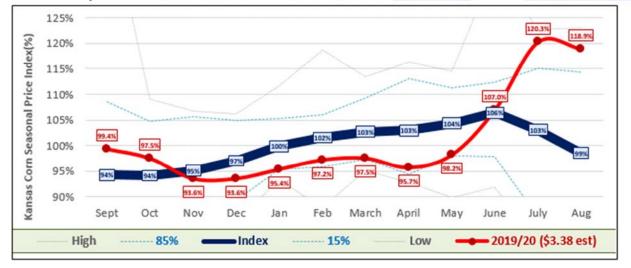
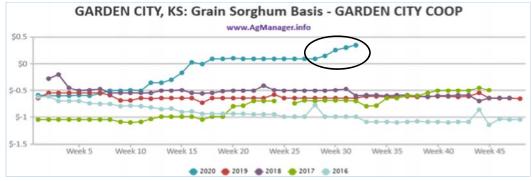
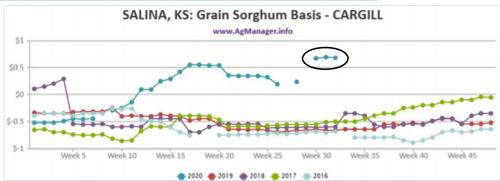




Figure 1b. Kansas Grain Sorghum Seasonal Price Index (MY 1999/00 – MY 2017/18) plus "Current Crop" MY 2019/20 Estimates as of September 2, 2020 (KSU www.AgManager.info & USDA NASS https://quickstats.nass.usda.gov/







U.S. Corn Supply and Demand

	2019/2020		2020/2021		
		Change from		Change from	Change from
Item	Estimate	July 10	Forecast	July 10	2019/2020
Planted area (million acres)	89.7		92.0		2.3
Harvested area (million acres)	81.3		84.0		2.7
Yield (bushels per acre)	167.4		181.8	3.3	14.4
ricia (susiicis per acre)	Million bushels				
Beginning stocks	2,221		2,228	-20	7
Production	13,617		15,278	278	1,661
Imports	45		25		-20
Total supply	15,883		17 <u>,5</u> 31	258	1,648
Feed and residual	5,600		5,925	75	325
Food, seed, and industrial	6,260		6,625		365
Ethanol	4,850		5,200		350
Domestic use	11,860		12,550	75	690
Exports	1,795	20	2,225	75	430
Total use	13,655	20	14,775	150	1,120
Ending stocks	2,228	-20	2,756	108	528
'	•		Percent		
Stocks to use ratio	16.3	-0.2	18.7	0.5	2.3
!	<i>T</i>	Do		shel	
Average market price	3.60		3.10	-0.25	-0.50

-- No change. August 12, 2020

Figure 5a. U.S. Corn Acreage for 2010-2020 as of the August 12, 2020 USDA Reports

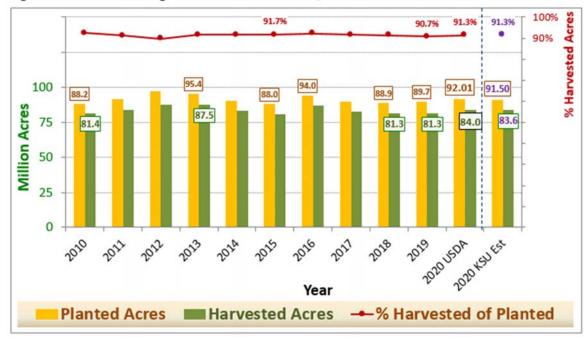


Figure 6. U.S. Corn Yield Trend for 2005-2020 as of the August 12, 2020 WASDE Report



Figure 7. U.S. Corn Production & Total Supplies: MY 2009/10 thru Projected "Next Crop" MY 2020/21 as of the August 12, 2020 USDA WASDE report



U.S. Sorghum Supply-Demand

August 12, 2020 WASDE Report

concurat	2018/19	2019/20 Est.	2020/21 Proj.	2020/21 Proj.				
SORGHUM			Jul	Aug				
	Million Bushels							
Area Planted (mil. acres)	5.7	5.3	5.6 *	5.6				
Area Harvested (mil. acres)	5.1	4.7	4.8 *	4.8				
Yield (bushels/acre)	72.1	73.0	67.5 *	76.6				
Beginning Stocks	35	64	30	30				
Production	365	341	327	371				
Imports	0	0	0	0				
Supply, Total	400	405	357	401				
Feed and Residual	138	90	70	70				
Food, Seed & Industrial	106	75	45	45				
Total Domestic	244	165	115	115				
Exports	93	210	220	260				
Use, Total	336	375	335	375				
Ending Stocks	64	30	22	<u>2</u> 6				
Avg. Farm Price (\$/bu) 2/	3.26	3.25	3.35	3.10				

Figure 2a. U.S. Grain Sorghum Planted & Harvested Acreage (2010 – 2020) Source: USDA Crop Production & WASDE Reports, August 12, 2020.



Figure 4a. U.S. Grain Sorghum Total Supplies: MY 2006/07 through "New Crop" MY 2020/21 as of the August 12, 2020 USDA WASDE report

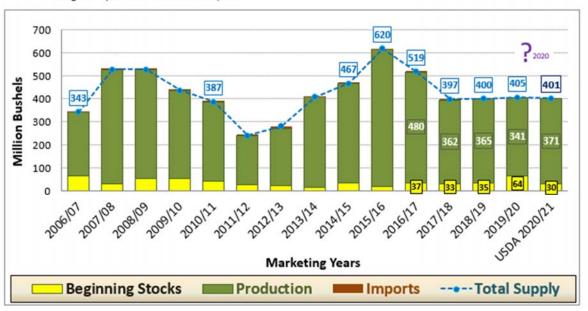


Figure 9a. Weekly U.S. Oxygenate Plant Production of Fuel Ethanol & Estimated Corn Use based on U.S. Department of Energy – Energy Information Agency data on U.S. Ethanol Industry Trends as of 8/21/2020

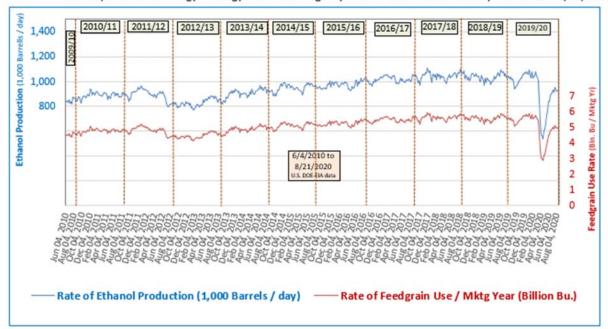


Figure 9b. Weekly U.S. Ethanol Production, Use, Imports, Exports & Stocks based on U.S. Department of Energy – Energy Information Agency data on U.S. Ethanol Industry Trends as of 8/21/2020

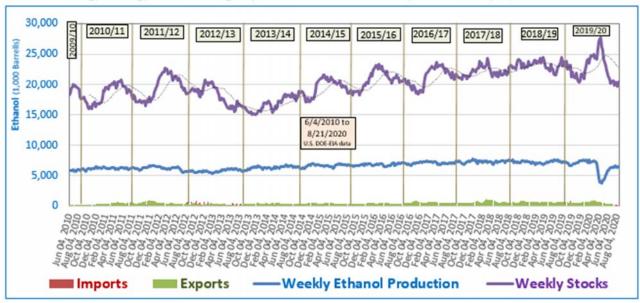


Figure 11c. U.S. Corn Exports for MY 2012/13, and MY 2016/17 Thru "New Crop" MY 2019/20 based on USDA Foreign Agricultural Service Weekly Export reports thru 8/20/2020 (End of marketing year on 8/31)

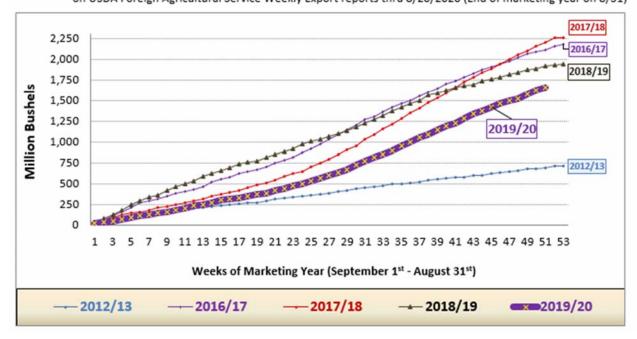


Figure 10. U.S. Corn Supply-Demand with DDGS Adjustments as of the August 12, 2020 USDA WASDE report

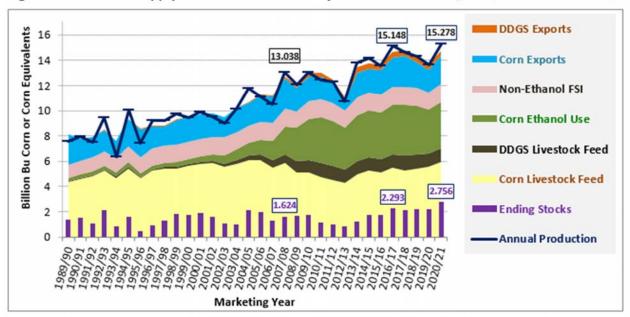


Figure 7a. U.S. Grain Sorghum Exports for MY 2012/13 through "Old Crop" MY 2019/20 as of August 20, 2020 - via USDA FAS Weekly Export reports

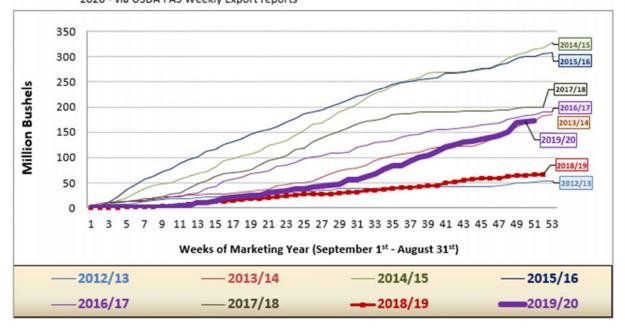
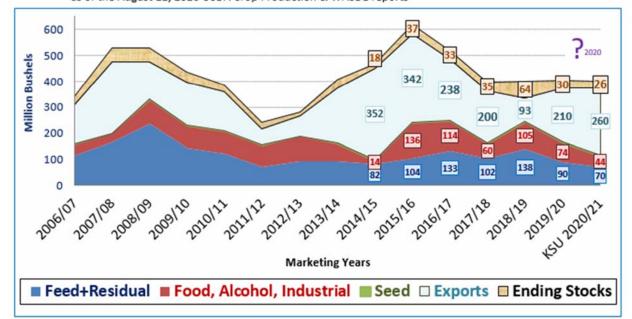


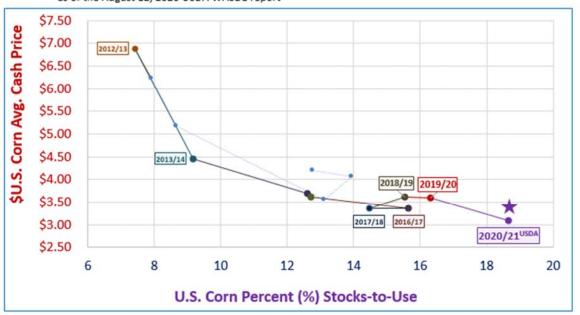
Figure 5a. Trends in U.S. Grain Sorghum Use & Ending Stocks: MY 2006/07 - "New Crop" MY 2020/21 as of the August 12, 2020 USDA Crop Production & WASDE reports

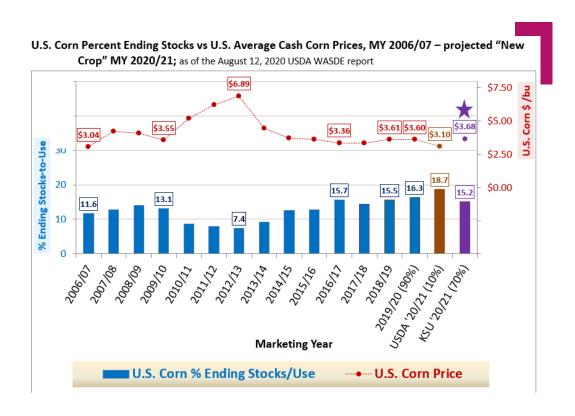


U.S. Corn Supply-Demand Balance Sheet: "Current" MY 2019/20 & Projected "Next Crop" MY 2020/21 as of the August 12, 2020 USDA WASDE report with Alternative KSU Marketing Year Scenarios

ltem	USDA 2019/20 8/12/2020 WASDE	USDA 2020/21 8/12/2020 WASDE	KSU Scenario #2 MY 2020/21 90.75 mln Planted Acres + Iowa Storm Damage	KSU Scenario #3 MY 2020/21 2.350 bb Exports + Iowa Crop Damage	KSU Scenario #4 MY 2020/21 @ 175.0 bu/ac U.S. Corn Yield	KSU Scenario #5 MY 2020/21 @ 175.0 bu/ac Yield + 2.350 bb Exports		
% Probability of Occurring (KSU)	90% ^{KSUest}	10% ^{KSUest}	35% ^{KSUest}	35%KSUest	10% ^{KSUest}	10%KSUest		
Planted Area (million acres)	89.700	92.006	90.750	90.750	90.750	90.750		
Harvested Area (million acres)	81.332	84.023	82.855	82.855	82.855	82.855		
% Harvested/Planted Area	90.7%	91.3%	91.3%	91.3%	91.3%	91.3%		
Yield / harvested acre (bu/ac)	167.4	181.8	178.5	178.5	175.0	175.0		
	Million Bushels							
Beginning Stocks (million bushels)	2,221	2,228	2,228	2,228	2,228	2,228		
Production (million bu.)	13,617	15,278	14,790	14,790	14,500	14,500		
Imports (million bu.)	45.0	25.0	25.0	25.0	25.0	25.0		
Total Supply (million bu.)	15,883	17,511	17,043	17,043	16,753	16,753		
Ethanol for fuel Use (million bu.)	4,850	5,200	5,200	5,200	5,200	5,200		
Food & Industrial Use (mln bu.)	1,378	1,393	1,393	1,393	1,393	1,393		
Seed Use (million bu.)	31.8	31.8	31.8	31.8	31.8	31.8		
Exports (million bu.)	1,795	2,225	2,225	2,350	2,225	2,350		
Feed & Residual Use (million bu.)	5,600	5,925	5,925	5,925	5,925	5,925		
Total Use (million bu.)	13,655	14,775	14,775	14,825	14,775	14,900		
Ending Stocks (million bu.)	2,228	2,756	2,268	2,218	1,968	1,853		
% Ending Stocks-to-Use	16.32%	18.65%	15.35%	14.96%	13.32%	12.44%		
Days of Supply (% S/U x 365 days)	59.6 days	68.1 days	56.0 days	54.6 days	48.6 days	45.4 days		
U.S. Corn Average Farm Price (\$/bushel)	\$3.60	\$3.10	\$3.65	\$3.70	\$3.85	\$4.00		

Figure 13a1. U.S. Corn Price vs U.S. % Stocks-to-Use, MY 2007/08 through "New Crop" MY 2019/20; as of the August 12, 2020 USDA WASDE report





World Corn Production

	2019/2020	2020/2021	Change from	Change from
Country or Region	estimate	forecast	July 10	2019/2020
		Mill	lion Tons	
World	1,112.4	1,171.0	7.8	58.6
United States	345.9	388.1	7.1	42.2
Foreign	766.5	782.9	0.8	16.4
Argentina	50.0	50.0		
Brazil	101.0	107.0		6.0
Mexico	25.0	28.0		3.0
Canada	13.4	14.3	-0.3	0.9
European Union	66.7	67.8	-0.5	1.1
Serbia	7.7	7.2	0.2	-0.5
FSU-12	55.8	60.4	0.4	4.7
Ukraine	35.9	39.5	0.5	3.6
Russia	14.3	15.3		1.0
South Africa	16.3	14.0		-2.3
China	260.8	(260.0)		-0.8
India	28.9	27.5		-1.4

⁻⁻ No change.

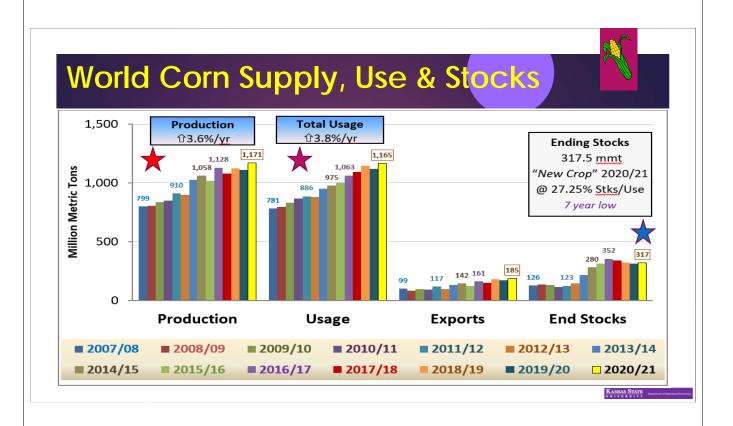


Table 1b. U.S. Grain Sorghum Supply-Demand Balance Sheet: Projected "Next Crop" MY 2020/21 as of the August 12, 2020 USDA WASDE report

Item	USDA 2020/21 May 12, 2020 WASDE	KSU Scenario #1 MY 2020/21 Moderately Lower Yields	KSU Scenario #2 MY 2020/21 Significantly Lower Yields	KSU Scenario #3 MY 2020/21 Higher U.S. exports				
% Probability of Occurring (KSU)	50% KSUese	20%KSUese	15%*SUese	15% ^{KSUest}				
Planted Area (million acres)	5.620	5.620	5.620	5.620				
Harvested Area (million acres)	4.845	4.845	4.845	4.845				
% Harvested/Planted Area	86.2%	86.2%	86.2%	86.2%				
Yield / harvested acre (by/ac)	76.6	74.0	72.0	76.6				
	Million Bushels							
Beginning Stocks (million bushels)	30	30	30	30				
Production (million bu.)	371	359	349	371				
Imports (million bu.)	0.05	0.05	0.05	0.05				
Total Supply (million bu.)	401	389	379	401				
Food & Industrial Use (mlg bu.)	44	44	44	44				
Seed Use (million bu.)	0.63	0.63	0.63	0.63				
Exports (million bu.)	260	260	250	285				
Feed & Residual Use (million bu.)	70	70	70	70				
Total Use (million bu.)	375	375	365	375				
Ending Stocks (million bu.)	26	14	14	16				
% Ending Stocks-to-Use	7.01%	3.73%	3.84%	4.27%				
Days of Supply (% S/U x 365 days)	25.6 days	13.6 days	14.0 days	15.6 days				
U.S. Sorghum & Corn Average Farm Prices (S/bushel)	\$3.10 U.S. Corn\$ = **\$3.10/bu	\$3.50	\$3.45	\$3.40				



Figure 9a. U.S. Sorghum Price vs % U.S. Feedgrain Stocks-to-Use: Selected Marketing Years vs MY 1975/76 through "New Crop" MY 2020/21 as of the August 12, 2020 USDA WASDE report

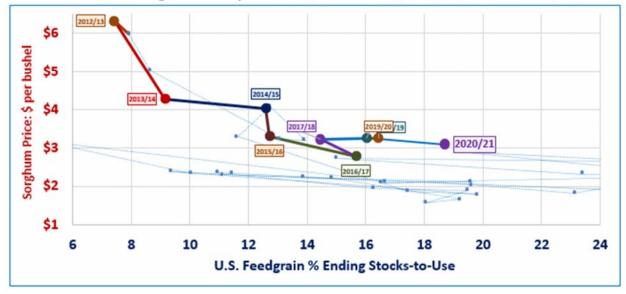


Figure 8b. U.S. Grain Sorghum Ending Stocks-to-Use vs U.S. Average Cash Prices: MY 2004/05 - "New Crop" MY 2020/21 as of the August 12, 2020 WASDE Report





Figure 10. World Coarse Supply-Demand: MY 2007/08 thru "New Crop" 2020/21 as of the August 12, 2020 USDA WASDE report

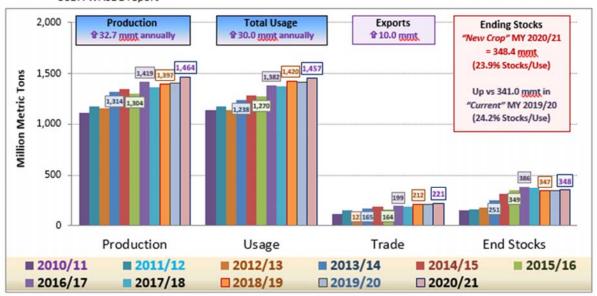


Figure 13. U.S. Sorghum Price (USD\$ Adj.) vs % "World-Less-China" Coarse Grain Stocks-to-Use: MY 2007/08 through "New Crop" MY 2020/21, as of the August 12, 2020 USDA WASDE report.

