

2020 Corn & Sorghum Market Outlook

U.S. Grains Council

June 12, 2020

DANIEL O'BRIEN

EXTENSION AGRICULTURAL ECONOMIST

KANSAS STATE
UNIVERSITY

Department of Agricultural Economics



Corn Markets

2



KANSAS STATE
UNIVERSITY

Department of Agricultural Economics

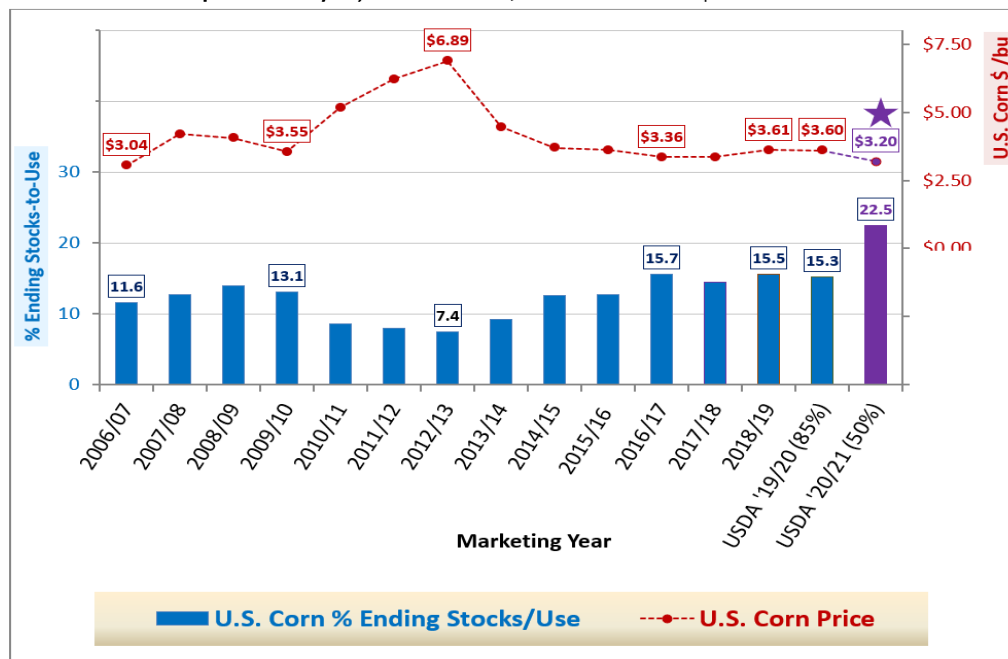
U.S. Corn Supply and Demand

Item	2019/2020		2020/2021		
	Estimate	Change from May 12	Forecast	Change from May 12	Change from 2019/2020
Planted area (million acres)	89.7	--	97.0	--	7.3
Harvested area (million acres)	81.3	-0.1	89.6	--	8.3
Yield (bushels per acre)	167.4	-0.4	178.5	--	11.1
----- Million bushels -----					
Beginning stocks	2,221	--	2,103	5	-118
Production	13,617	-45	15,995	--	2,378
Imports	45	--	25	--	-20
Total supply	15,883	-45	18,123	5	2,240
Feed and residual	5,700	--	6,050	--	350
Food, seed, and industrial	6,305	-50	6,600	--	295
Ethanol	4,900	-50	5,200	--	300
Domestic use	12,005	-50	12,650	--	645
Exports	1,775	--	2,150	--	375
Total use	13,780	-50	14,800	--	1,020
Ending stocks	2,103	5	3,323	5	1,220
----- Percent -----					
Stocks to use ratio	15.3	0.1	22.5	**	7.2
----- Dollars per bushel -----					
Average market price	3.60	--	3.20	--	-0.40

-- No change. ** Rounds to zero.

June 11, 2020

Figure. U.S. Corn Percent Ending Stocks vs U.S. Average Cash Corn Prices, MY 2006/07 – projected “New Crop” MY 2020/21; as of the June 11, 2020 USDA WASDE report





Released June 11, 2020, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Special Note

Survey respondents in North Dakota who reported corn and soybean acreage as not yet harvested during the surveys conducted in preparation for the *Crop Production 2019 Summary*, released January 10, 2020, were re-contacted in May to determine how many of those acres were actually harvested and record the actual production from those acres. When producers were surveyed in December, there were a significant number of unharvested acres of:

- Corn in Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin
- Soybeans in Michigan, North Dakota, and Wisconsin

Based on this updated information, several changes were made to the estimates previously published in the *Crop Production 2019 Summary*. Unharvested production is a component of on-farm stocks, therefore, changes were made to the December 1 on-farm stocks levels comparable with the production adjustments. Detailed estimates by State can be found on pages 14 through 18.

Producers in Michigan, Minnesota, South Dakota, and Wisconsin were contacted in April and updated estimates were previously published in the May 12 *Crop Production* report.

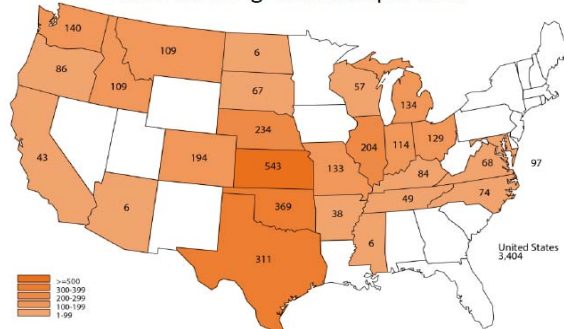


Data Sources



Operator Reported Survey	Ag Yield	Sample Size = 3,404	May 30 - June 8
Field Survey	Objective Yield	Sample Size = 975	May 23 - June 1

June 2020 Ag Yield Sample Sizes





2019 Corn Acreage, Yield, and Production



	Planted (1,000 Acres)	Harvested (1,000 Acres)	Yield (Bushels/Acre)	Production (1,000 Bushels)
United States	89,700	81,322	167.4	13,617,261
% Change from Previous Estimate (January)	NC	↓ 0.2	↓ 0.4	↓ 0.5
% Change from Previous Estimate (May)	NC	↓ 0.1	↓ 0.2	↓ 0.3
% Change from Previous Season	↑ 0.9	↑ 0.1	↓ 5.1	↓ 5.0

	Re-Interview States							
	Planted (1,000 Acres)		Harvested (1,000 Acres)		Yield (Bushels/Acre)		Production (1,000 Bushels)	
Michigan ¹	2,000	NC	1,610	NC	147.0	↓ 1.3	236,670	↓ 1.3
Minnesota ¹	7,800	NC	7,250	↓ 0.1	173.0	↓ 0.6	1,254,250	↓ 0.7
North Dakota ²	3,500	NC	3,130	↓ 3.1	131.0	↓ 7.1	410,030	↓ 10.0
South Dakota ¹	4,350	NC	3,870	↓ 1.0	144.0	↓ 0.7	557,280	↓ 1.7
Wisconsin ¹	3,800	NC	2,670	↓ 0.4	166.0	↓ 1.2	443,220	↓ 1.6

¹ The % Δ PE is from January. Updated estimates were published in May *Crop Production* report.

² The % Δ PE is from January. Updated estimates were published in June *Crop Production* report.

United States Department of Agriculture
National Agricultural Statistics Service

June 11, 2020



December 2019 Corn Stocks



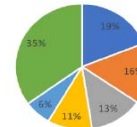
	December 1 Total (1,000 Bu)	December 1 On-Farm (1,000 Bu)	December 1 Off-Farm (1,000 Bu)
United States	11,327,338	7,103,000	4,224,338
% Change from Previous Estimate (March)	↓ 0.7	↓ 1.0	NC
% Change from Previous Estimate (May)	↓ 0.4	↓ 0.6	NC
% Change from Previous Season	↓ 5.1	↓ 4.7	↓ 5.8

	Re-Interview States					
	December 1 Total (1,000 Bu)		December 1 On-Farm (1,000 Bu)		December 1 Off-Farm (1,000 Bu)	
Michigan ¹	196,043	↓ 2.5	145,000	↓ 3.3	51,043	NC
Minnesota ¹	1,222,849	↓ 0.8	920,000	↓ 1.1	302,849	NC
North Dakota ²	385,373	↓ 10.5	340,000	↓ 11.7	45,373	NC
South Dakota ¹	513,992	↓ 1.9	360,000	↓ 2.7	153,992	NC
Wisconsin ¹	378,991	↓ 1.3	255,000	↓ 1.9	123,991	NC

¹ The % Δ PE is from March. Updated estimates were published in May *Crop Production* report.

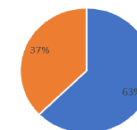
² The % Δ PE is from March. Updated estimates were published in June *Crop Production* report.

December 1, 2019 Corn Stocks
By State



■ Iowa ■ Illinois ■ Nebraska ■ Minnesota ■ Indiana ■ Other

December 1, 2019 Corn Stocks
By Position



■ On-Farm ■ Off-Farm

United States Department of Agriculture
National Agricultural Statistics Service

June 11, 2020



Crop Progress

ISSN: 1948-3007

Released June 8, 2020, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Corn Planted - Selected States

[These 18 States planted 91% of the 2019 corn acreage]

State	Week ending			2015-2019 Average
	June 7, 2019	May 31, 2020	June 7, 2020	
	(percent)	(percent)	(percent)	(percent)
Colorado	85	97	98	94
Illinois	65	92	98	92
Indiana	57	87	95	89
Iowa	89	98	99	98
Kansas	86	92	97	94
Kentucky	92	86	93	95
Michigan	57	83	92	86
Minnesota	87	99	100	97
Missouri	78	92	95	93
Nebraska	92	99	100	98
North Carolina	99	100	100	99
North Dakota	90	75	87	96
Ohio	45	80	94	85
Pennsylvania	85	80	91	88
South Dakota	58	95	98	90
Tennessee	98	90	96	99
Texas	99	96	98	97
Wisconsin	72	94	96	91
18 States	78	93	97	94

Corn Emerged - Selected States

[These 18 States planted 91% of the 2019 corn acreage]

State	Week ending			2015-2019 Average
	June 7, 2019	May 31, 2020	June 7, 2020	
	(percent)	(percent)	(percent)	(percent)
Colorado	63	84	95	78
Illinois	46	76	90	84
Indiana	30	73	85	76
Iowa	69	93	97	90
Kansas	69	74	86	83
Kentucky	82	72	79	86
Michigan	28	53	72	68
Minnesota	63	91	97	89
Missouri	65	85	90	89
Nebraska	76	88	95	89
North Carolina	95	93	98	96
North Dakota	53	26	52	77
Ohio	27	55	73	73
Pennsylvania	70	36	60	74
South Dakota	28	72	90	77
Tennessee	92	78	86	95
Texas	86	96	97	90
Wisconsin	42	73	86	77
18 States	57	78	89	84

Corn Condition – Selected States: Week Ending June 7, 2020

[These 18 States planted 91% of the 2019 corn acreage]

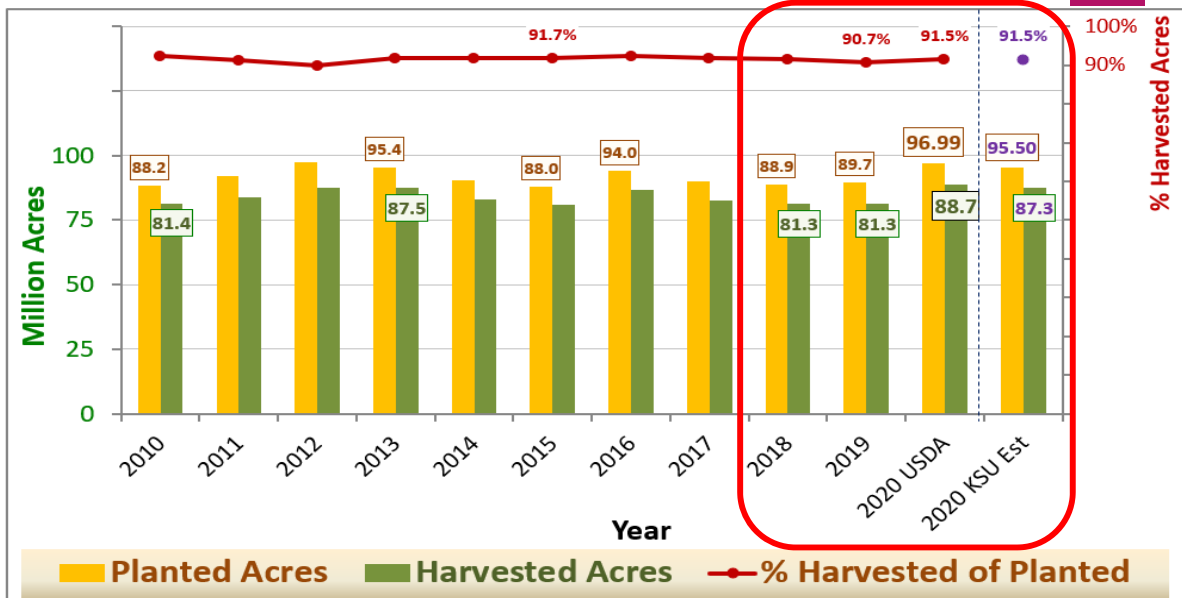
State	Very poor (percent)	Poor (percent)	Fair (percent)	Good (percent)	Excellent (percent)
Colorado	3	9	36	43	9
Illinois	3	7	25	52	13
Indiana	2	5	25	58	10
Iowa	-	1	14	70	15
Kansas	2	5	33	53	7
Kentucky	1	2	14	72	11
Michigan	1	5	28	56	10
Minnesota	-	2	15	60	23
Missouri	1	6	32	52	9
Nebraska	-	1	16	63	20
North Carolina	2	13	26	52	7
North Dakota	-	4	19	68	9
Ohio	2	5	32	50	11
Pennsylvania	-	-	10	69	21
South Dakota	-	-	18	72	10
Tennessee	1	3	23	58	15
Texas	1	5	23	52	19
Wisconsin	-	1	13	55	31
18 States	1	3	21	60	15
Previous week	1	3	22	61	13
Previous year	2	7	32	52	7

- Represents zero.

U.S. Corn Acreage

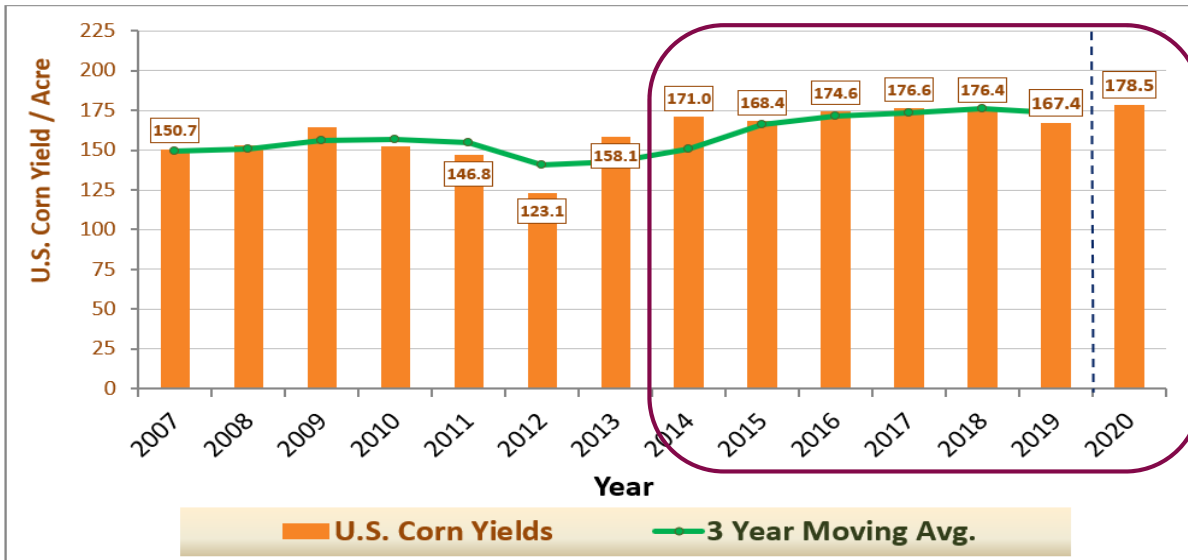
For 2020 ???
Increase of 5 ½ - 7 mln ac.?

12

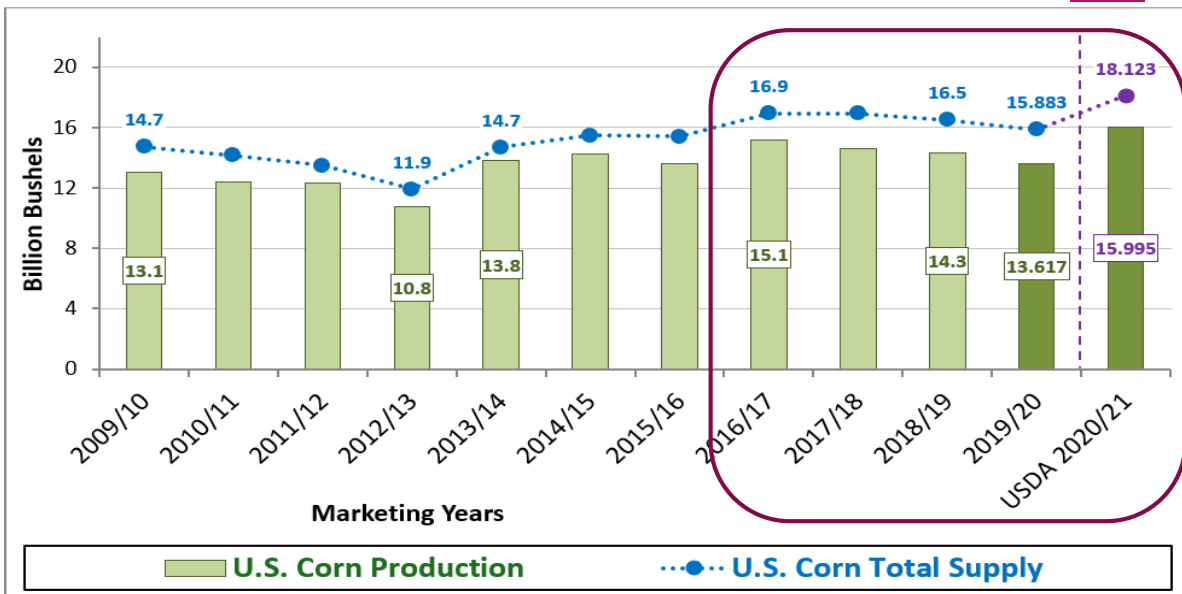


U.S. Corn Yields

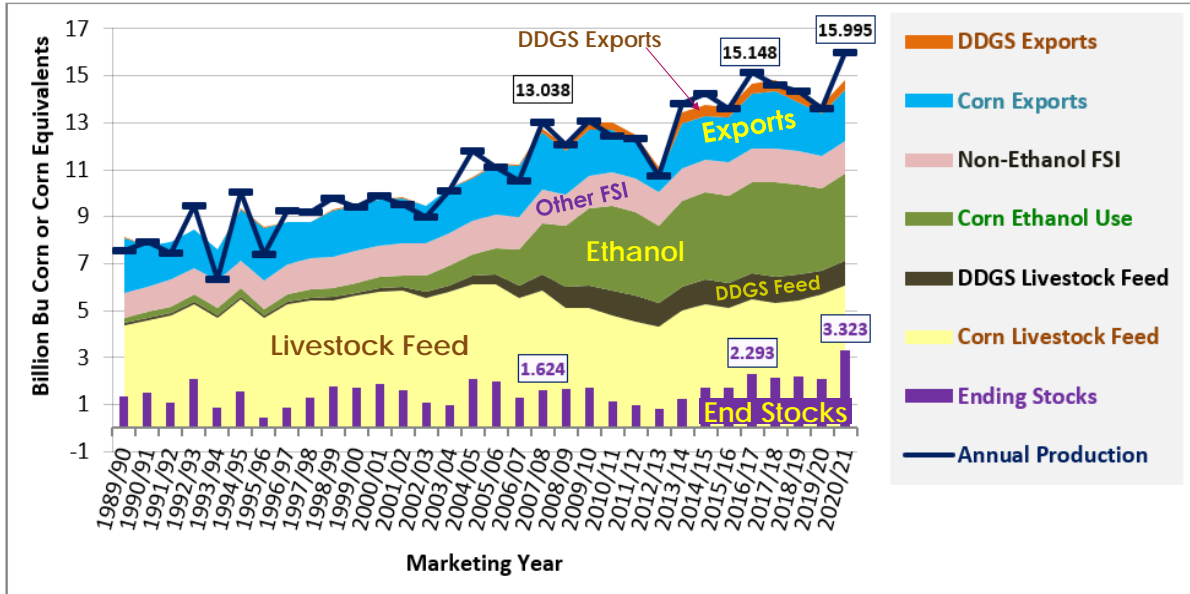
USDA 2020 USDA Forecast = 178.5 bu/ac



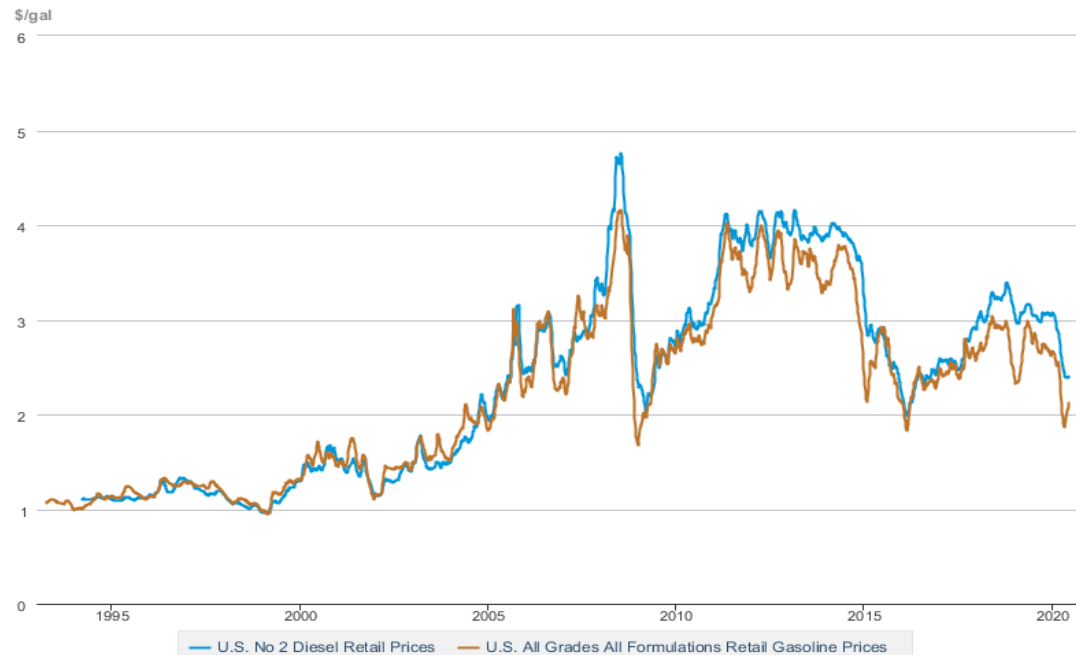
U.S. Corn Production & Supplies



U.S. Corn Use – By Category



Weekly Retail Gasoline and Diesel Prices



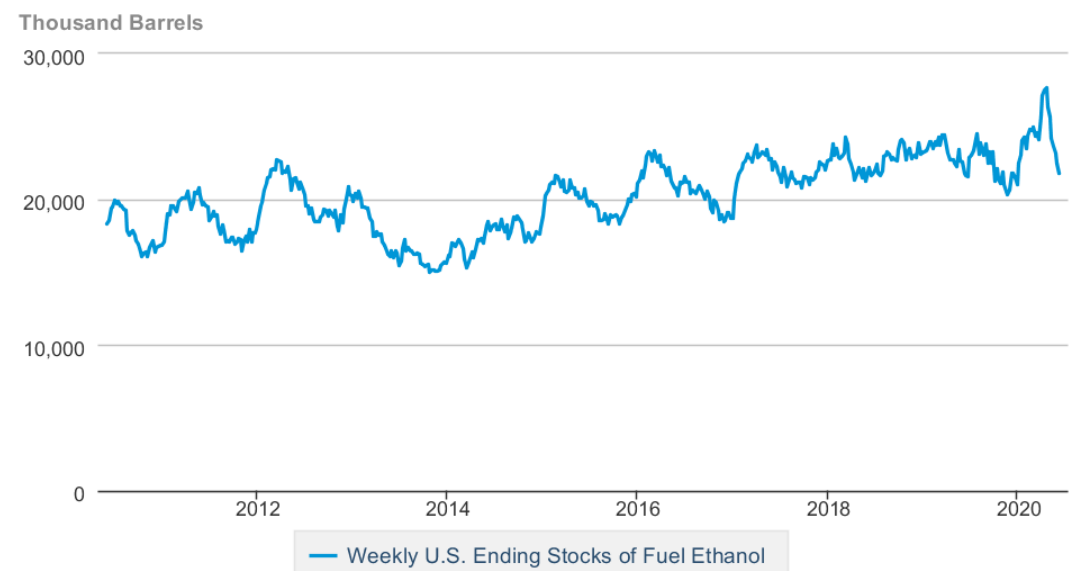
Source: U.S. Energy Information Administration

Weekly Ethanol Plant Production



Source: U.S. Energy Information Administration

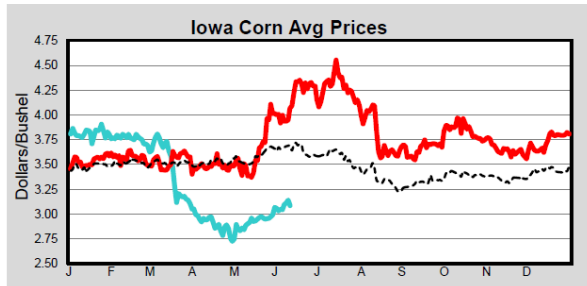
Weekly U.S. Ending Stocks of Fuel Ethanol



Source: U.S. Energy Information Administration



Thu. Jun 11, 2020

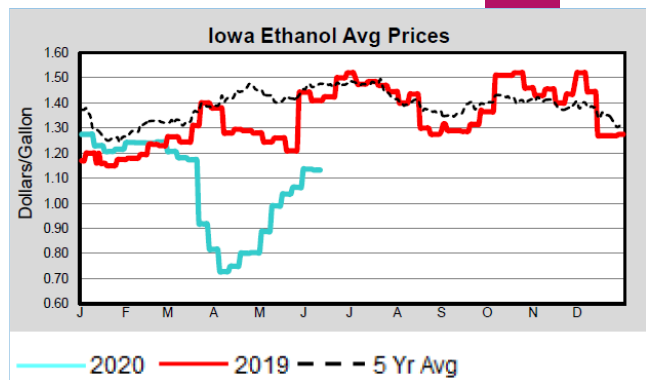
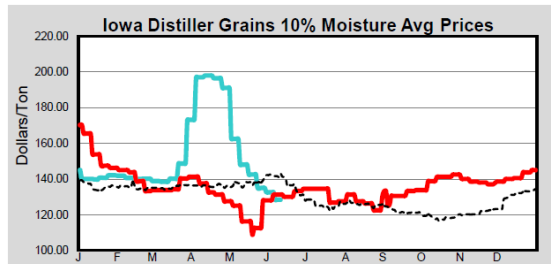


US #2 Yellow Corn - dollars/bushel				
	Cash Bids	Chg	Basis	Avg:
Iowa-Eastern:	3.0425 - 3.2025	↓	-22N to -6N	-14.00
Iowa-Western:	2.9225 - 3.1625	↓	-34N to -10N	-21.81
Illinois:	3.2325 - 3.3825	↓	-3N to 12N	1.67
Indiana:	3.1625 - 3.5625	↑	-10N to 30N	7.44
Ohio:	3.4125 - 3.4825	↑	15N to 22N	18.67
Michigan:	3.1125 - 3.4125	↓	-15N to 15N	6.25
Kansas:	3.2125 - 3.5425	↓	-5N to 28N	8.00
Minnesota:	2.7625 - 3.0725	↓	-50N to -19N	-27.83
Nebraska:	2.7625 - 3.2625	↓	-50N to OptN	-18.27
Wisconsin:	2.9025 - 3.0425	↓	-36N to -22N	-28.40
South Dakota:	2.8425 - 2.9925	↓	-42N to -27N	-36.15
Missouri:	3.1325 - 3.3625	↓	-13N to 10N	-0.25

Sorghum - dollars/bushel				
	Cash Bids	Chg	Basis	Avg:
Kansas:	3.3625	↓	10N to 10N	10.00

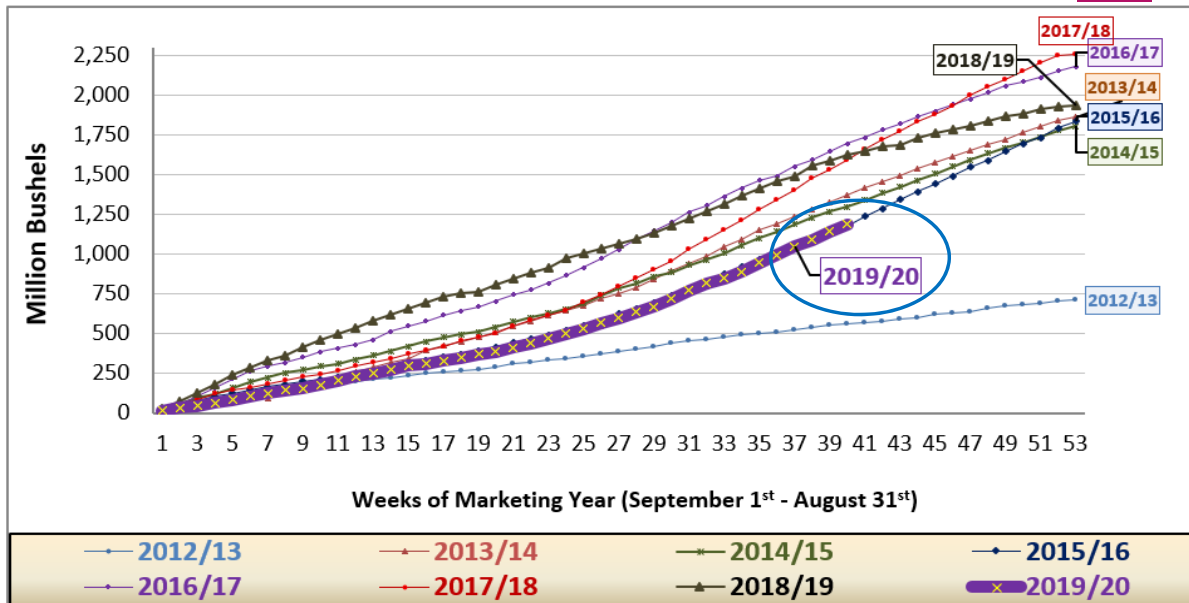


Thu. Jun 11, 2020

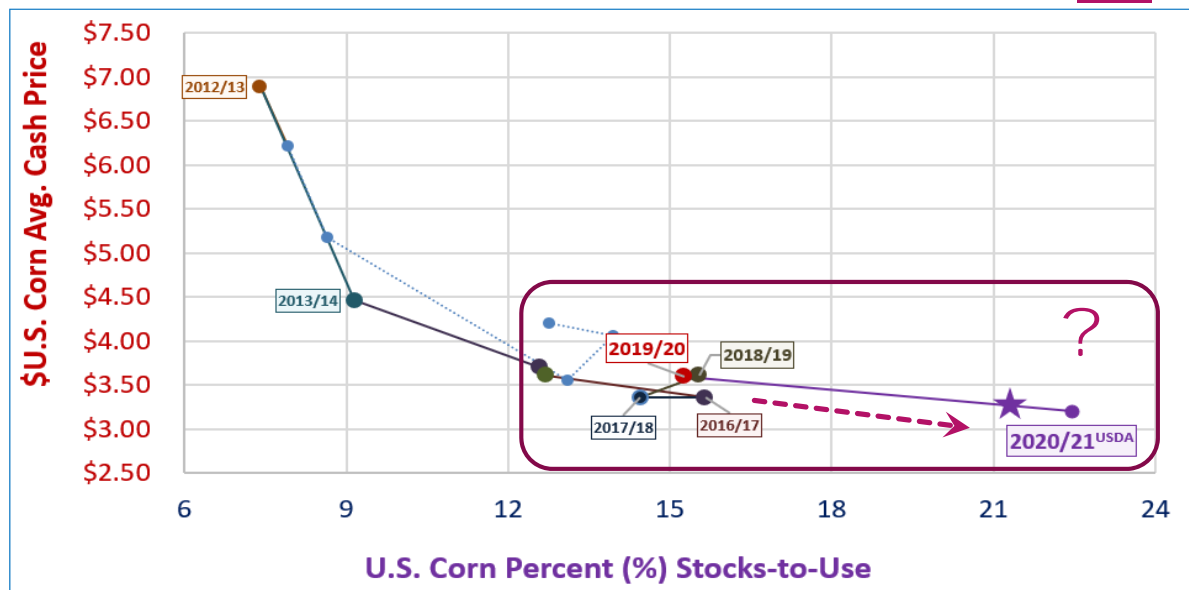


Ethanol - dollars/gallon - week ending 06/05/2020					
Iowa:	1.08	-	1.20	↑	1.13
Eastern Cornbelt:	1.21	-	1.28	↑	1.23
Kansas:	1.08	-	1.15	↑	1.12
Minnesota:	1.10	-	1.10	↑	1.10
Nebraska:	1.07	-	1.20	↑	1.13
Wisconsin:			NA	NA	NA
South Dakota:	1.10	-	1.10	↑	1.10

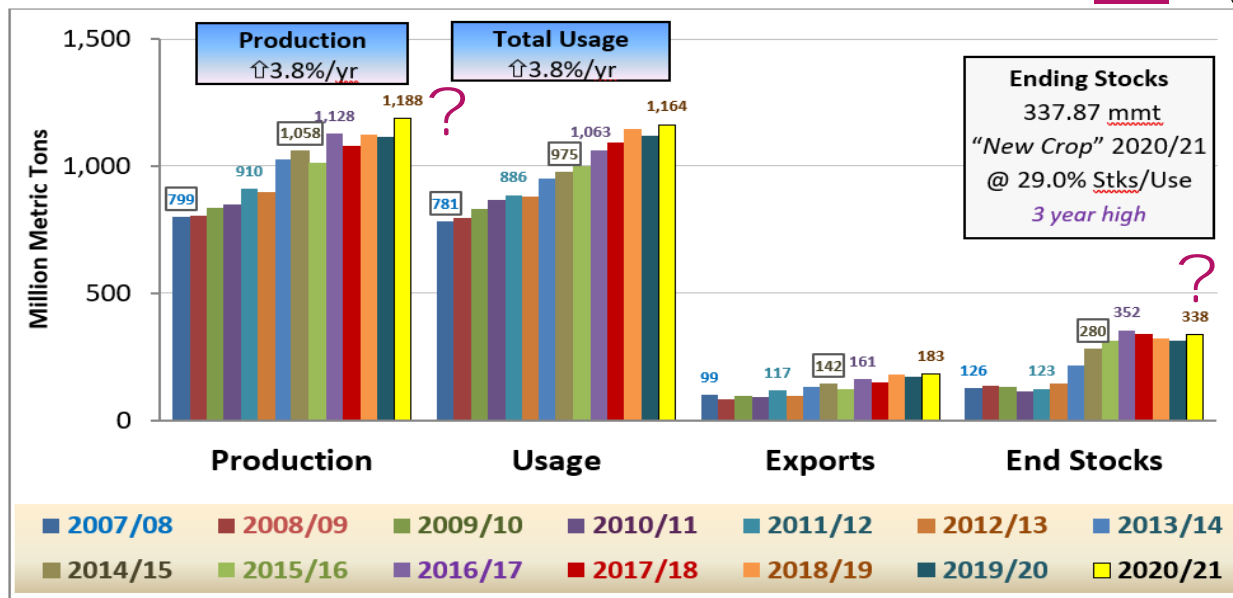
U.S. Corn Exports - Weekly thru 6/4/2020



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



World Corn Supply, Use & Stocks



KANSAS STATE UNIVERSITY Department of Agricultural Economics

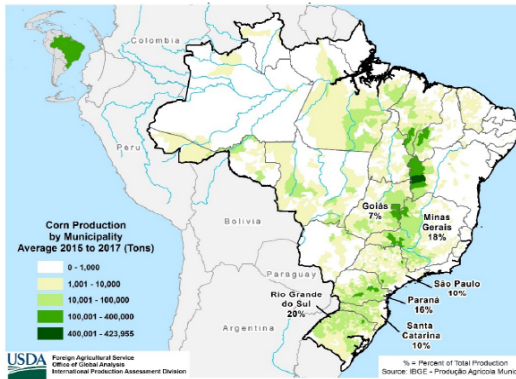
World Corn Production

Country or Region	2019/2020		2020/2021		
	Estimate	Change from May 12	Forecast	Change from May 12	Change from 2019/2020
----- Million Tons -----					
World	1,113.5	-1.3	1,188.5	1.6	75.0
United States	345.9	-1.2	406.3	--	60.4
Foreign	767.6	-0.1	782.2	1.6	14.6
Argentina	50.0	--	50.0	--	--
Brazil	101.0	--	107.0	1.0	6.0
Mexico	25.0	--	28.0	--	3.0
Canada	13.4	--	15.6	--	2.2
European Union	66.6	--	68.3	--	1.7
Serbia	7.7	--	7.0	--	-0.7
FSU-12	55.8	--	59.2	--	3.5
Ukraine	35.9	--	39.0	--	3.1
Russia	14.3	--	14.5	--	0.2
South Africa	16.3	0.3	14.0	--	-2.3
China	260.8	--	260.0	--	-0.8
India	28.9	0.4	27.5	--	-1.4

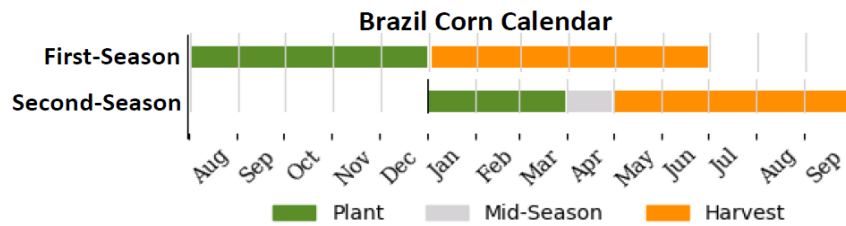
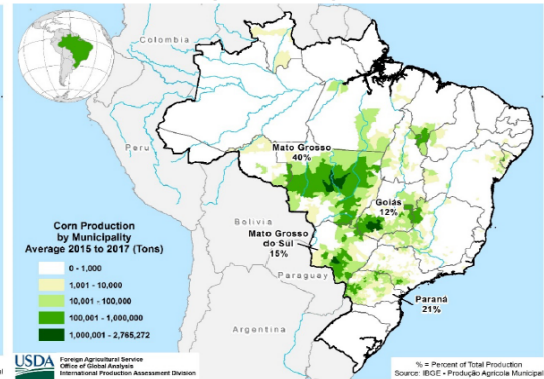
-- No change.

June 11, 2020

First-Season Corn Production (~25 mmt)

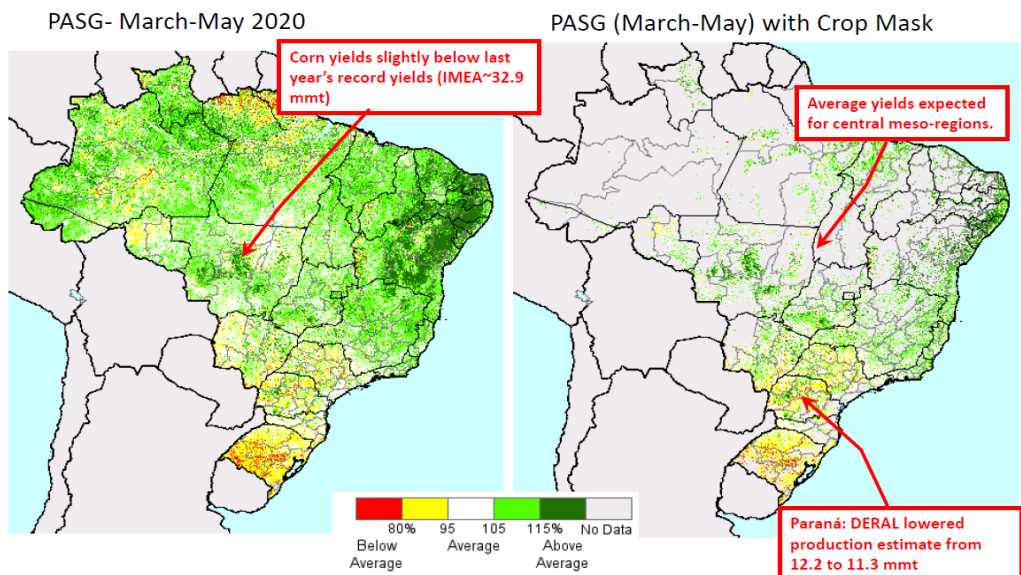


Second-Season Corn Production (~75 mmt)



June 11, 2020

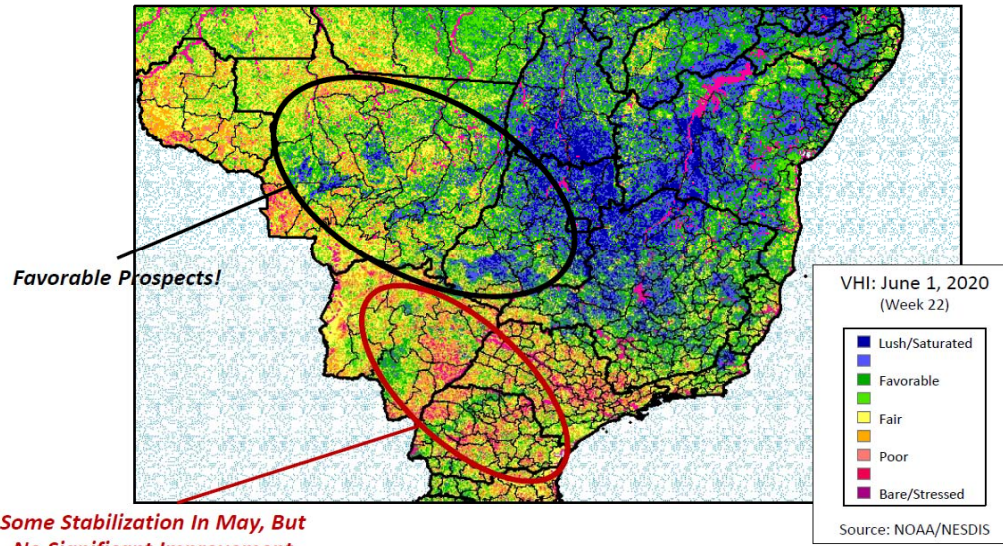
Percent of Average Seasonal Greenness (PASG) during March-May 2020 (1-km NDVI-ProbaV)



Source: USDA/FAS Crop Explorer <https://ipad.fas.usda.gov/cropeexplorer/>

June 11, 2020

Brazil: Crop Weather Summary



USDA Agricultural Weather Assessments
World Agricultural Outlook Board

June 11, 2020

Brazil 2019/20 Corn Summary

	Unit	2019/20	2018/19	Change from Previous Month	Change from Previous Year	5-year Average	Record
Area	Mil Ha	18.4*	17.5	1%	5%	16.7	17.6 (16/17)
Yield	Tons/Ha	5.49	5.77*	-1%	-5%	5.18	5.77 (18/19)
Production	Mil Tons	101	101*	NC	0%	86.7	101.0 (18/19)

*denotes record

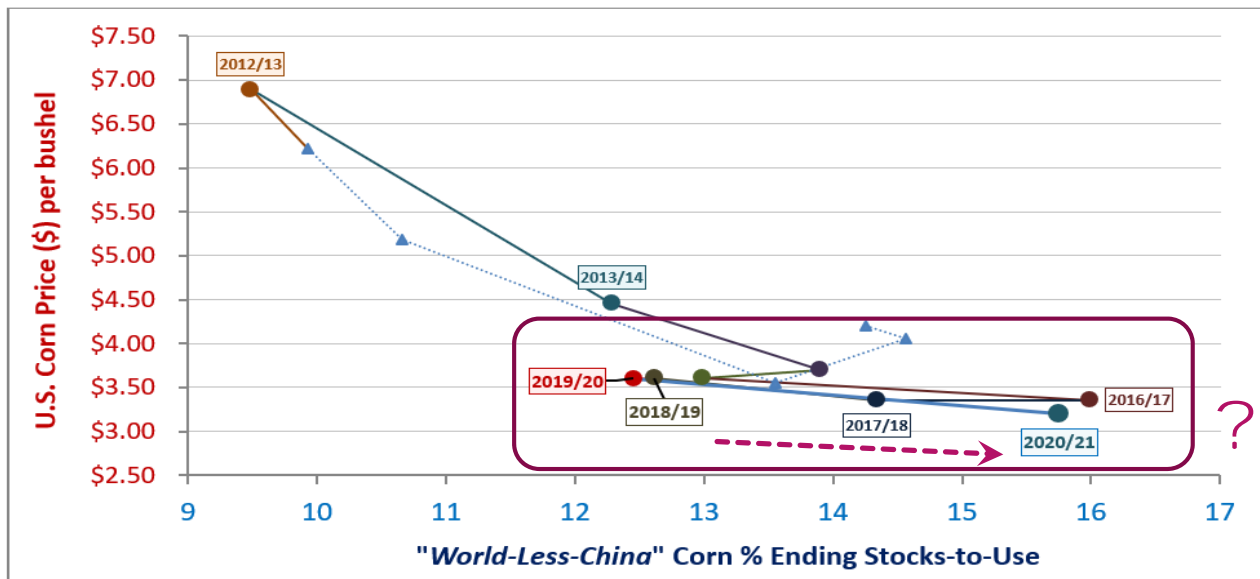
- **Area:** Increase in corn area from 18.1 to 18.4 MHa after second-season corn planting completed in mid-March.
 - First-season crop = ~ 25.4 MMT (harvest = March)
 - Second-season crop = ~ 74.2 MMT (plant=Jan 1-Mar 15; harvest=June)
- **Yield:** Forecast yield for second-season crop below trend due to below-average rains in Mato Grosso do Sul (~8.5 MMT) and Paraná (11 MMT).
 - Above-average crop conditions in northern Mato Grosso (~34 MMT).
- **Production:** Potentially close to last year's record with the late rains in May.

June 11, 2020

World Corn Supply and Use

Item	2019/2020 estimate	2020/2021 forecast	Change from May 12	Change from 2019/2020
----- Million Tons -----				
Beginning stocks	320.1	312.9	-1.8	-7.2
Production	1,113.5	1,188.5	1.6	75.0
Total Supply	1,433.6	1,501.4	-0.2	67.8
Feed use	706.2	730.4	1.4	24.2
Total use	1,120.7	1,163.5	1.6	42.8
Trade	169.5	182.5	0.2	13.0
Ending Stocks	312.9	337.9	-1.8	25.0

World-Less-China Corn % Stocks/Use vs Price\$^{U.S.}



Grain Sorghum Markets



KANSAS STATE UNIVERSITY Department of Agricultural Economics

U.S. Grain Sorghum Supply-Demand Balance Sheet

June 11, 2020

32

SORGHUM	2018/19	2019/20 Est.	2020/21 Proj. May	2020/21 Proj. Jun
	<i>Million Bushels</i>			
Area Planted (mil. acres)	5.7	5.3	5.8 *	5.8 *
Area Harvested (mil. acres)	5.1	4.7	5.2 *	5.2 *
Yield (bushels/acre)	72.1	73.0	67.5 *	67.5 *
Beginning Stocks	35	64	35	30
Production	365	341	351	351
Imports	0	0	0	0
Supply, Total	400	405	386	381
Feed and Residual	138	95	85	85
Food, Seed & Industrial	106	70	50	50
Total Domestic	244	165	135	135
Exports	93	210	220	220
Use, Total	336	375	355	355
Ending Stocks	64	30	31	26
Avg. Farm Price (\$/bu) 2/	3.26	3.25	3.20	3.20

Sorghum Planted - Selected States

[These 6 States planted 100% of the 2019 sorghum acreage]

State	Week ending			2015-2019 Average
	June 7, 2019	May 31, 2020	June 7, 2020	
	(percent)	(percent)	(percent)	(percent)
Colorado	52	42	56	47
Kansas	20	27	51	37
Nebraska	49	81	93	72
Oklahoma	37	34	38	53
South Dakota	34	46	66	60
Texas	89	87	88	89
6 States	45	49	64	60

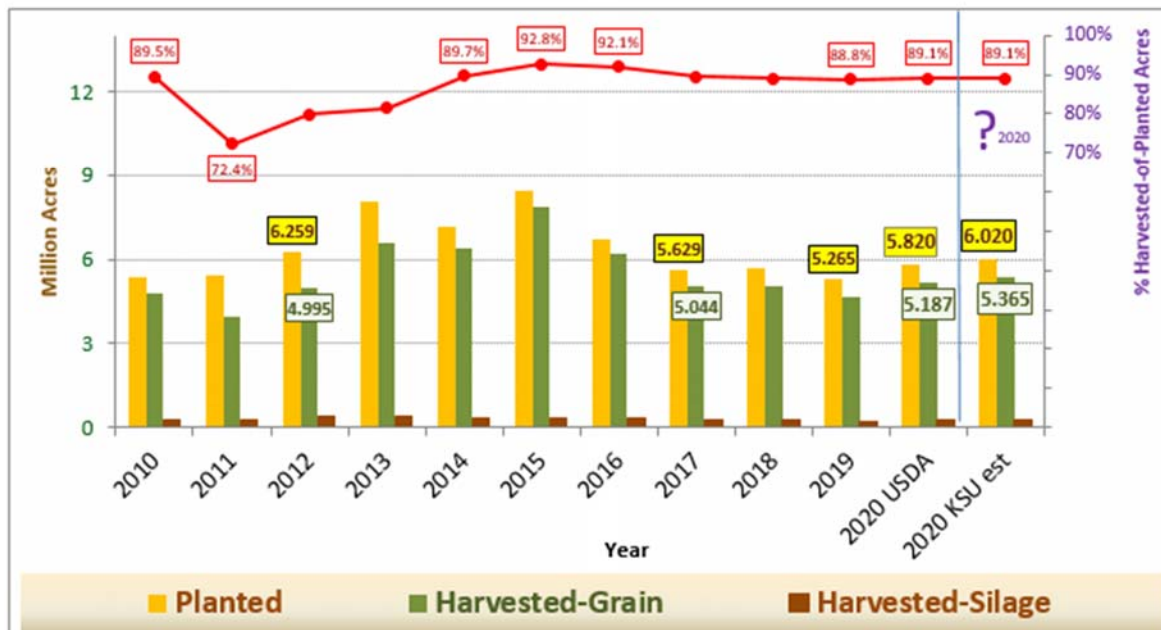
Sorghum Condition – Selected States: Week Ending June 7, 2020

[These 6 States planted 100% of the 2019 sorghum acreage]

State	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Colorado	3	6	43	39	9
Kansas	1	4	43	50	2
Nebraska	-	1	9	86	4
Oklahoma	-	-	13	85	2
South Dakota	-	-	20	77	3
Texas	2	8	43	38	9
6 States	1	5	39	50	5
Previous week	2	4	30	56	8
Previous year	(NA)	(NA)	(NA)	(NA)	(NA)

- Represents zero.
(NA) Not available.

Figure. U.S. Grain Sorghum Planted & Harvested Acreage (2010 – 2020) as of April 17, 2020, source: USDA NASS Prospective Plantings Report on 3/31/2020 and KSU Projections for Year 2020.



**Figure. Trends in U.S. Grain Sorghum Exports, Food-Seed-Industrial Use, & Feed Use: MY 2006/07
 "New Crop" MY 2020/21** as of the June 11, 2020 USDA Crop Production & WASDE reports

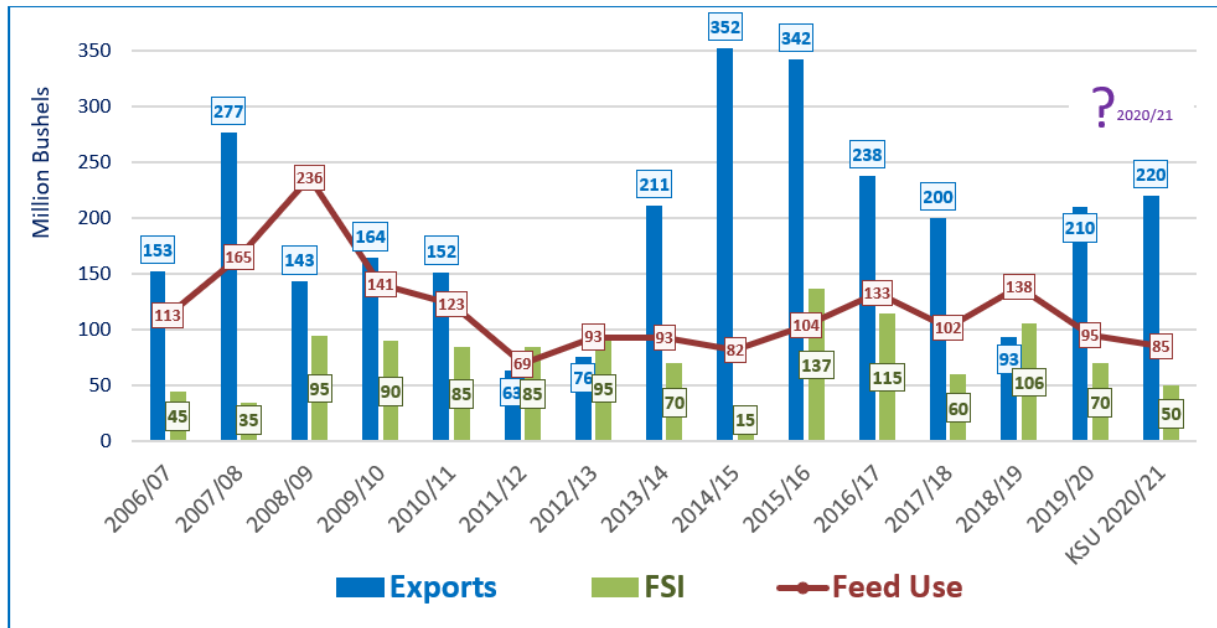


Figure 7a. U.S. Grain Sorghum Exports for MY 2012/13 through "Old Crop" MY 2019/20 as of June 4, 2020
 - via USDA FAS Weekly Export reports

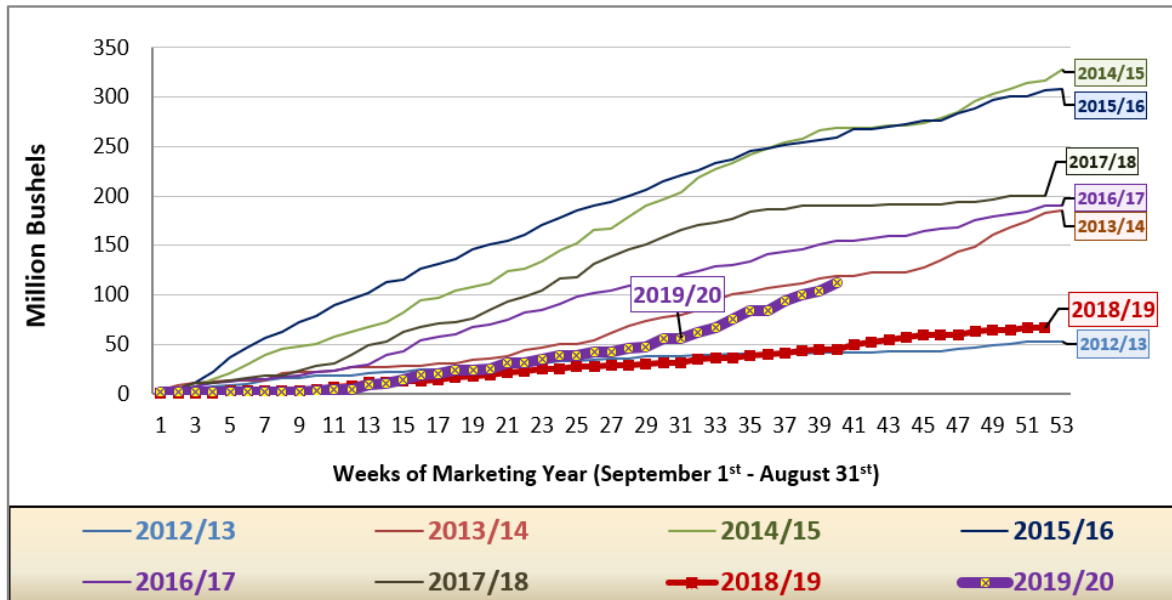


Figure. U.S. Grain Sorghum Ending Stocks-to-Use vs U.S. Average Cash Prices: MY 2004/05 - "New Crop" MY 2020/21 as of the June 11, 2020 WASDE Report

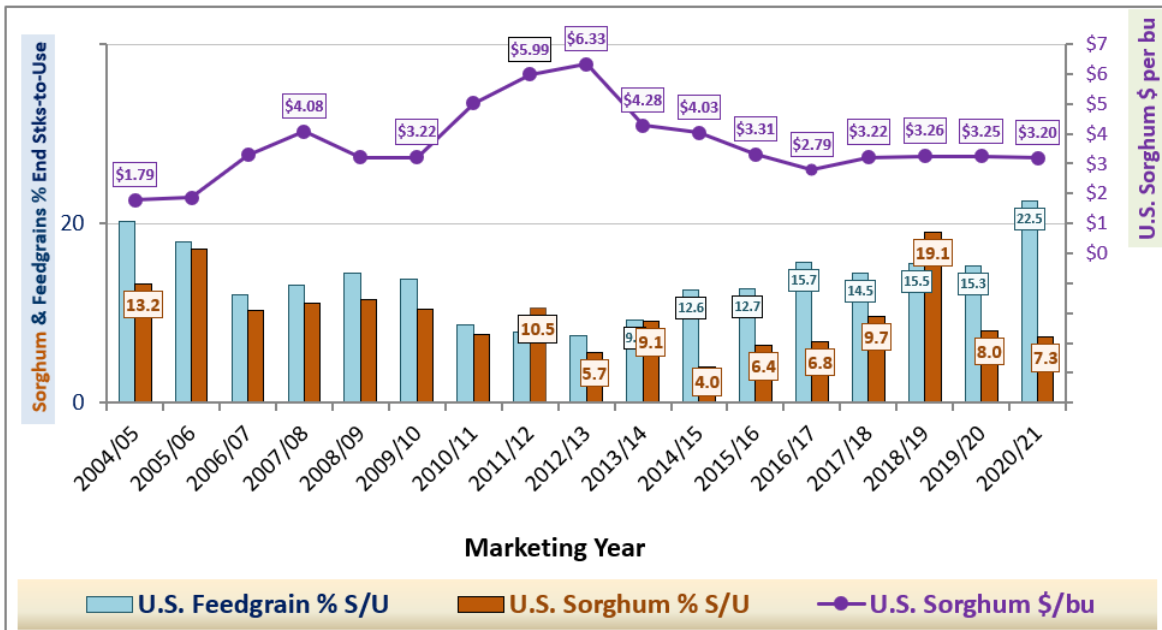
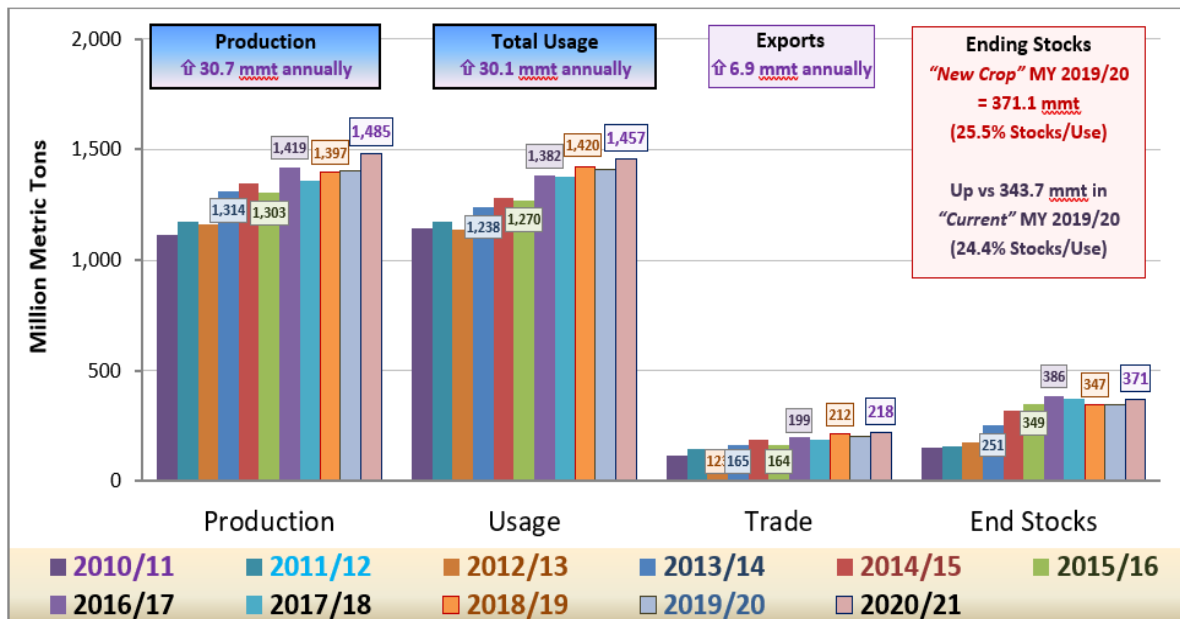


Figure. World Coarse Supply-Demand: MY 2007/08 thru "New Crop" 2020/21 as of the June 11, 2020 USDA WASDE report



U.S. Barley Supply-Demand Balance Sheet

June 11, 2020

39

BARLEY

Area Planted (mil. acres)	2.5	2.7	2.9 *	2.9 *
Area Harvested (mil. acres)	2.0	2.2	2.4 *	2.4 *
Yield (bushels/acre)	77.5	77.7	75.8 *	75.8 *
Beginning Stocks	94	87	92	92
Production	154	170	182	182
Imports	6	8	7	7
Supply, Total	254	264	281	281
Feed and Residual	15	30	40	40
Food, Seed & Industrial	148	136	143	143
Total Domestic	162	166	183	183
Exports	5	6	5	5
Use, Total	167	172	188	188
Ending Stocks	87	92	93	93
Avg. Farm Price (\$/bu) 2/	4.62	4.70	4.30	4.30

Barley Emerged - Selected States

[These 5 States planted 81% of the 2019 barley acreage]

State	Week ending			2015-2019 Average
	June 7, 2019	May 31, 2020	June 7, 2020	
	(percent)	(percent)	(percent)	(percent)
Idaho	91	91	95	94
Minnesota	86	78	97	95
Montana	76	82	91	86
North Dakota	83	42	71	91
Washington	74	85	92	88
5 States	82	74	87	90

Barley Condition – Selected States: Week Ending June 7, 2020

[These 5 States planted 81% of the 2019 barley acreage]

State	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Idaho	-	2	27	55	16
Minnesota	-	1	15	66	18
Montana	-	2	17	65	16
North Dakota	-	2	15	76	7
Washington	-	6	8	71	15
5 States	-	2	19	65	14
Previous week	-	1	30	61	8
Previous year	-	2	14	68	16

- Represents zero.

U.S. Oats Supply-Demand Balance Sheet

June 11, 2020

41

OATS

Area Planted (mil. acres)	2.7	2.8	3.0 *	3.0 *
Area Harvested (mil. acres)	0.9	0.8	1.1 *	1.1 *
Yield (bushels/acre)	64.9	64.3	66.4 *	66.4 *
Beginning Stocks	41	38	29	29
Production	56	53	73	73
Imports	87	94	96	96
Supply, Total	184	185	198	198
Feed and Residual	66	73	75	75
Food, Seed & Industrial	78	81	79	79
Total Domestic	144	154	154	154
Exports	2	2	2	2
Use, Total	146	156	156	156
Ending Stocks	38	29	42	42
Avg. Farm Price (\$/bu) 2/	2.66	2.85	2.50	2.50

U.S. Feedgrain Supply-Demand Balance Sheet

June 11, 2020

42

FEED GRAINS	2018/19	2019/20 Est.	2020/21 Proj. May	2020/21 Proj. Jun
			<i>Million Acres</i>	
Area Planted	99.9	100.5	108.7 *	108.7 *
Area Harvested	89.2	89.0	98.3 *	98.3 *
			<i>Metric Tons</i>	
Yield per Harvested Acre	4.24	4.03	4.28	4.28
			<i>Million Metric Tons</i>	
Beginning Stocks	57.9	60.5	56.6	56.6
Production	377.7	359.0	420.2	420.2
Imports	2.3	2.9	2.4	2.4
Supply, Total	437.9	422.4	479.3	479.3
Feed and Residual	143.0	149.2	158.1	158.1
Food, Seed & Industrial	179.6	166.1	173.2	173.2
Domestic, Total	322.5	315.2	331.2	331.2
Exports	54.9	50.6	60.3	60.3
Use, Total	377.5	365.8	391.6	391.6
Ending Stocks	60.5	56.6	87.7	87.7



Upcoming Reports



June 19	Cattle on Feed
June 25	Hogs and Pigs
★ June 30	Acreage Grain Stocks Rice Stocks Agricultural Prices
July 1	Cotton System Fats and Oils Grain Crashings
★ July 10	Crop Production
July 10	World Agricultural Supply & Demand Estimates (WASDE)
★ August 12 & September 11	Crop Production & WASDE Reports https://www.nass.usda.gov/Publications/index.php

United States Department of Agriculture
National Agricultural Statistics Service

June 11, 2020

Questions?

Daniel O'Brien – Extension Ag Economist

Blog: www.ksugrains.wordpress.com

KSUGrains on Twitter

www.AgManager.info



KANSAS STATE
UNIVERSITY

Department of Agricultural Economics