Corn Market Outlook for 2021

2021 Kansas Corn Schools

February 11, 2021

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KANSAS STATE UNIVERSITY Department of Agricultural Economics

What to anticipate in 2021….. 2

- **2021 U.S. Spring Plantings** ⇨ *U.S. Farmers Expectations?*
  - **1st determine South American crops in Spring 2021**
    - *"Some" problems with 2021 South American crops to date*
  - **Corn** U.S. 2021 ⇧ **2%-4% ?** ➲ ***Exports vs Ethanol & Feed Use***
  - **Soybeans** U.S 2021 ⇧ **3%-5% ?** ➲ ***Exports vs Domestic Crush***
  - **Sorghum** U.S. 2021 **Up** KS-OK-TX ➲ ***Exports*** ⇨ Chinese demand

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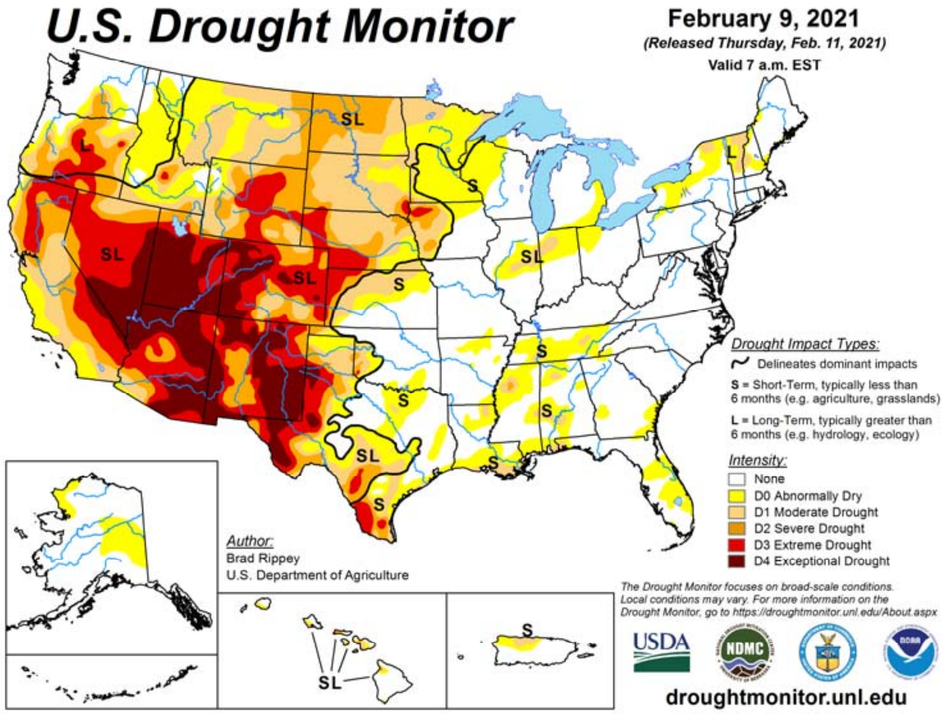

U.S. Drought Monitor
February 9, 2021
(Released Thursday, Feb. 11, 2021)
Valid 7 a.m. EST
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
Brad Rippey
U.S. Department of Agriculture
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx
USDA
NDMC
droughtmonitor.unl.edu

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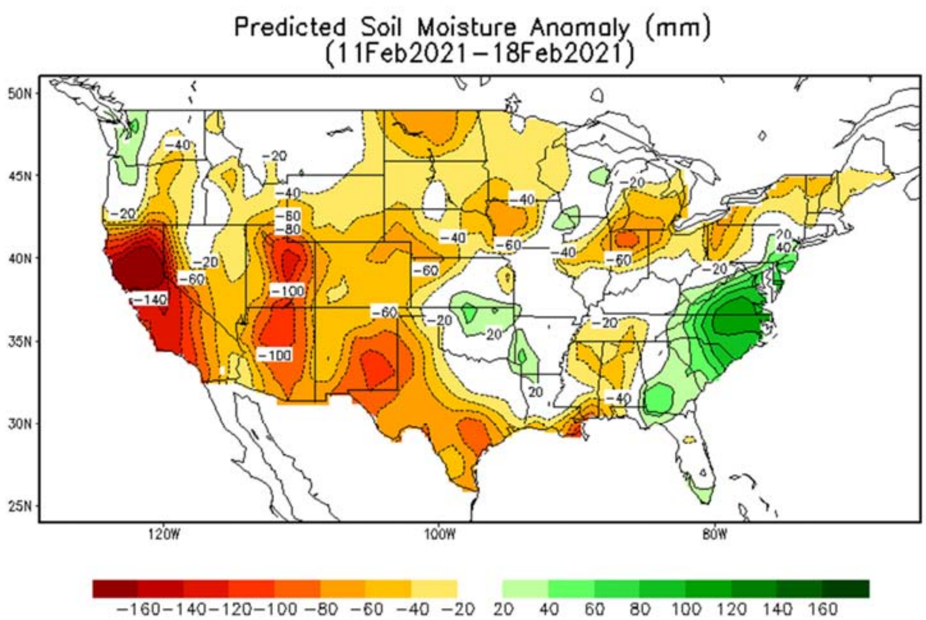

Predicted Soil Moisture Anomaly (mm)
(11Feb2021–18Feb2021)
50N
45N
40N
35N
30N
25N
120W
100W
80W
−160 −140 −120 −100 −80 −60 −40 −20 20 40 60 80 100 120 140 160

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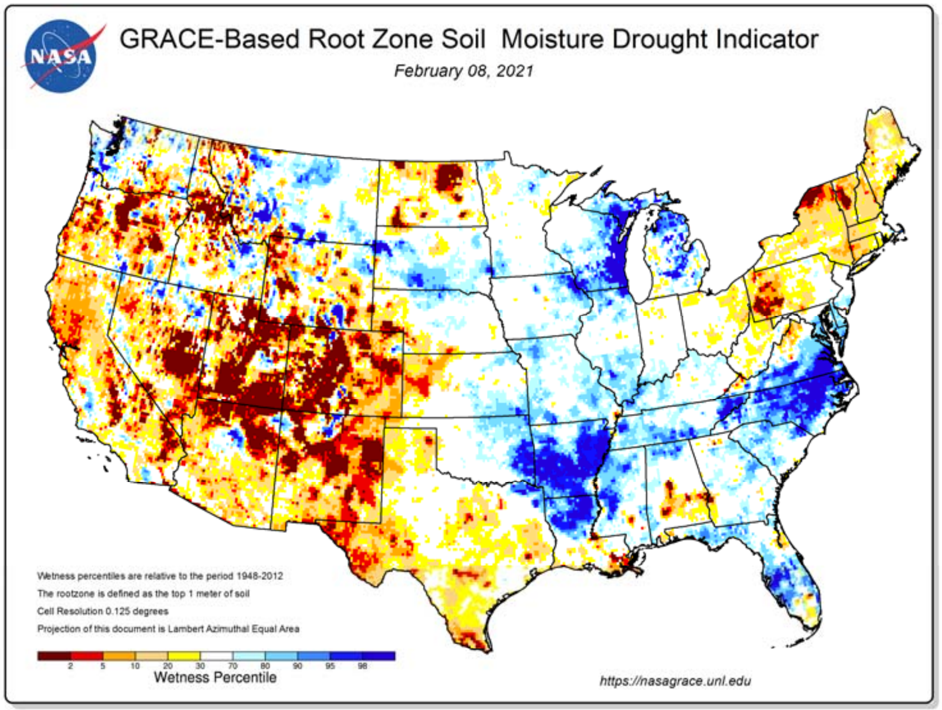

Major Corn Export Competitors….

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- **Corn <u>Production</u>** **So-Am + Ukraine 2021**
  - ***Down* 1.3%** vs 2020 & ***Down* 1.2%** vs 2019
  - *UP* 30% over 2013-2018 average
- **Corn <u>Exports</u>** **So-Am + Ukraine 2021**
  - ***Down* 3.0%** vs 2020 & ***Down* 9.7%** vs 2019
  - *UP* 50% over 2013-2018 yearly average

- **Argentina & Brazil:** *(+/-)weather, export taxes, weak currencies…..*
- **Ukraine & Russia:** (+/-) weather, *Geopolitical issues, logistics, weak currencies, domestic food cost inflation, protectionist moves*[Wheat]

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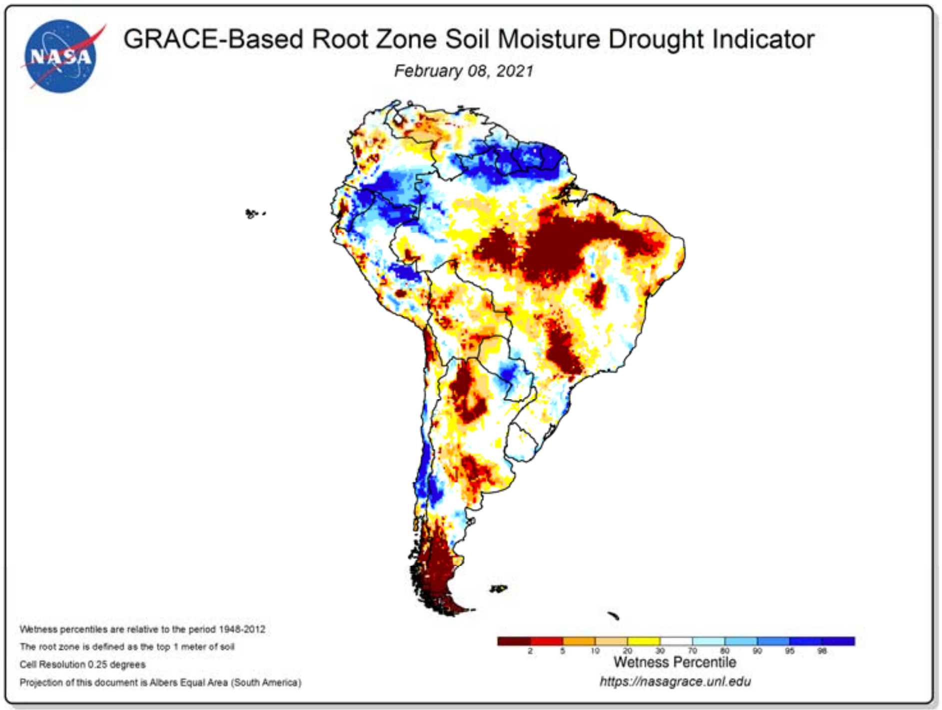

NASA
GRACE-Based Root Zone Soil Moisture Drought Indicator
February 08, 2021
Wetness percentiles are relative to the period 1948-2012
The root zone is defined as the top 1 meter of soil
Cell Resolution 0.25 degrees
Projection of this document is Albers Equal Area (South America)
2 5 10 20 30 70 80 90 95 98
Wetness Percentile
https://nasagrace.unl.edu

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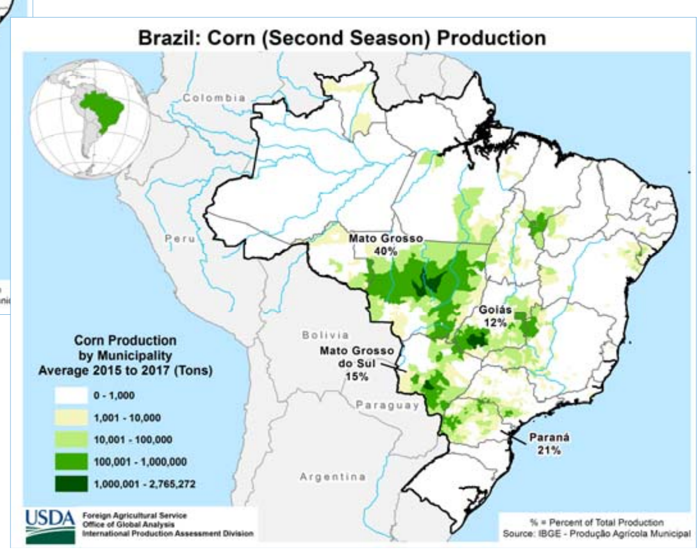
Brazil: Corn (First Season) Production
Colombia
Peru
Bolivia
Paraguay
Argentina
Corn Production by Municipality Average 2015 to 2017 (Tons)
0 - 1,000
1,001 - 10,000
10,001 - 100,000
100,001 - 400,000
400,001 - 423,955
Goiás 7%
Minas Gerais 18%
São Paulo 10%
Rio Grande do Sul 20%
Paraná 16%
Santa Catarina 10%
USDA
Foreign Agricultural Service
Office of Global Analysis
International Production Assessment Division
% = Percent of Total Production



Brazil: Corn (Second Season) Production
Colombia
Peru
Bolivia
Paraguay
Argentina
Mato Grosso 40%
Goiás 12%
Mato Grosso do Sul 15%
Paraná 21%
Corn Production by Municipality Average 2015 to 2017 (Tons)
0 - 1,000
1,001 - 10,000
10,001 - 100,000
100,001 - 1,000,000
1,000,001 - 2,765,272
USDA
Foreign Agricultural Service
Office of Global Analysis
International Production Assessment Division
% = Percent of Total Production
Source: IBGE - Produção Agrícola Municipal

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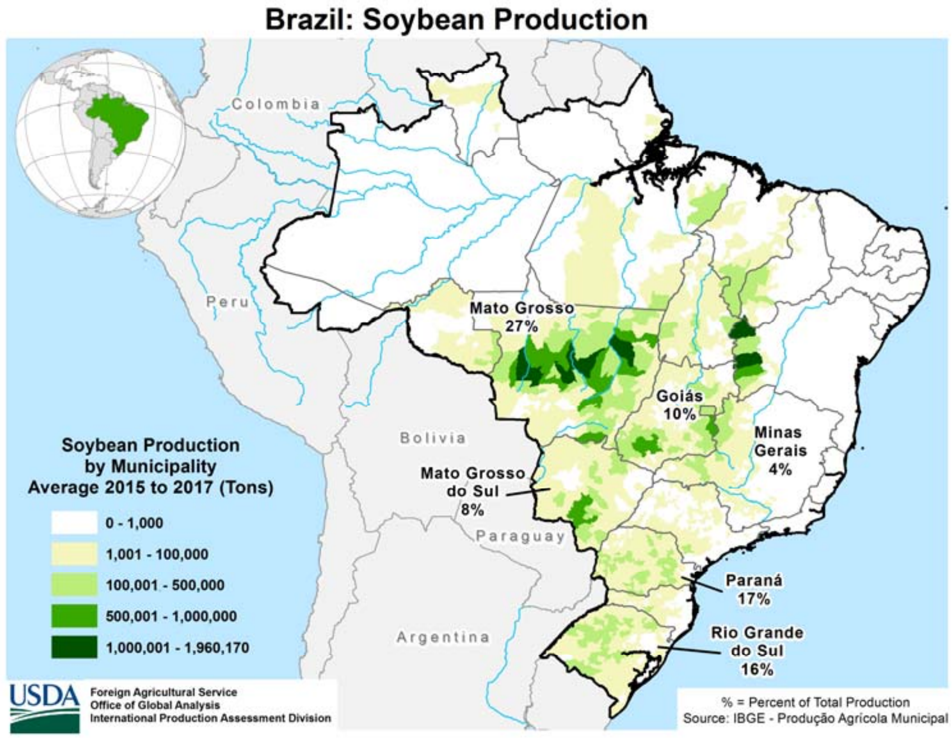
Brazil: Soybean Production
Colombia
Peru
Bolivia
Paraguay
Argentina
Mato Grosso
27%
Goiás
10%
Minas
Gerais
4%
Mato Grosso
do Sul
8%
Paraná
17%
Rio Grande
do Sul
16%
Soybean Production
by Municipality
Average 2015 to 2017 (Tons)
0 - 1,000
1,001 - 100,000
100,001 - 500,000
500,001 - 1,000,000
1,000,001 - 1,960,170
USDA
Foreign Agricultural Service
Office of Global Analysis
International Production Assessment Division
% = Percent of Total Production
Source: IBGE - Produção Agrícola Municipal

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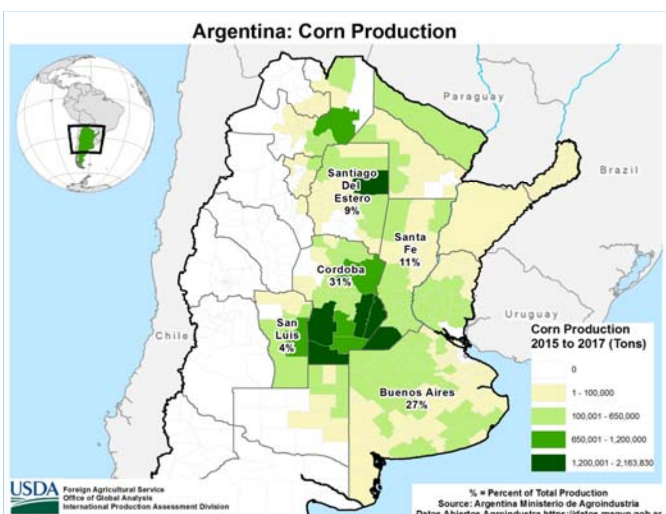
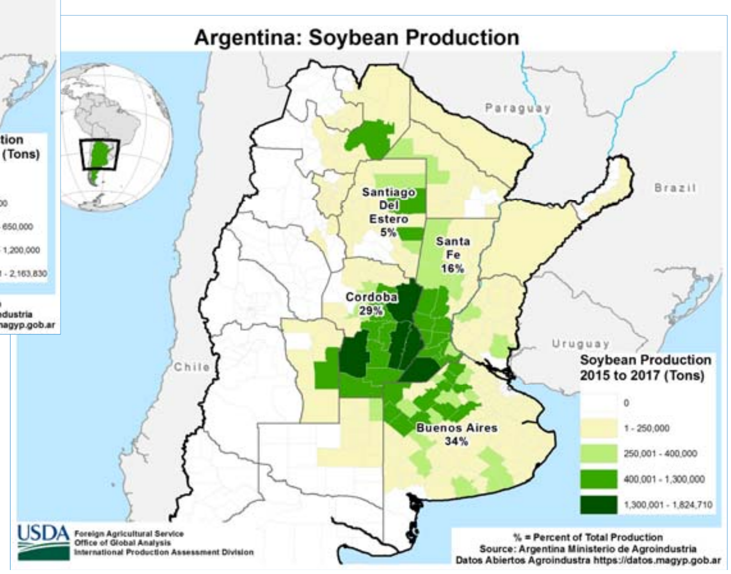

Argentina: Corn Production
Paraguay
Brazil
Uruguay
Chile
Santiago
Del
Estero
9%
Santa
Fe
11%
Cordoba
31%
San
Luis
4%
Buenos Aires
27%
Corn Production
2015 to 2017 (Tons)
0
1 - 100,000
100,001 - 650,000
650,001 - 1,200,000
1,200,001 - 2,163,830
USDA
Foreign Agricultural Service
Office of Global Analysis
International Production Assessment Division
% = Percent of Total Production
Source: Argentina Ministerio de Agroindustria
Datos Abiertos Agroindustra https://datos.magyp.gob.ar


Argentina: Soybean Production
Paraguay
Brazil
Uruguay
Chile
Santiago
Del
Estero
5%
Santa
Fe
16%
Cordoba
29%
Buenos Aires
34%
Soybean Production
2015 to 2017 (Tons)
0
1 - 250,000
250,001 - 400,000
400,001 - 1,300,000
1,300,001 - 1,824,710
USDA
Foreign Agricultural Service
Office of Global Analysis
International Production Assessment Division
% = Percent of Total Production
Source: Argentina Ministerio de Agroindustria
Datos Abiertos Agroindustra https://datos.magyp.gob.ar

Corn Markets

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U.S. Corn Stocks…..

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- **Corn**: **"*Tight*" Stocks & % S/U** **@ $4.30 /bu** **U.S. Farm$**
  - o **End Stocks** **2020/21** ⇨ **1.502** bln bu (*vs* ***1.919 bb*** *last year*)
  - o **% Stocks/Use** **2020/21** ⇨ **10.3%** S/U (*vs* ***13.7%*** *S/U last year*)
  - o **U.S. Avg. Farm $** **2020/21** ⇨ **$4.30** /bu (*vs* ***$3.56*** */bu last year*)

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CME Corn Futures

TFC Commodity Charts

Weekly Chart: January 2016 – February 11, 2021

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CME Corn Futures

TFC Commodity Charts

Monthly Chart: 2005 – February 11, 2021

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CME Corn Futures Closes on 2/11/2021					
Month	Close	Change	Carry /mo	Volume (contracts / bu)	Open Interest (contracts / bu)
Mar^{L} 21	**$5.41**	⇧ $0.0650	---	**239,516 Contracts / 1,197,580,000 bu**	**421,496 Contracts / 2,107,480,000 bu**
May 21	$5.39 ¾	⇧ $0.07	No Carry	180,989 Contracts / 904,945,000 bu	596,856 Contracts / 2,984,280,000 bu
July 21	$5.27 ¾	⇧ $0.07	No Carry	60,401 Contracts / 302,005,000 bu	371,047 Contracts / 1,855,235,000 bu
Sept 21	$4.74 ¾	⇧ $0.0375	No Carry	13,470 Contracts / 68,700,000 bu	159,458 Contracts / 797,290,000 bu
Dec^{H} 21	**$4.52 ½**	⇧ $0.0450	No Carry	**33,597 Contracts / 167,985,000 bu**	**323,614 Contracts / 1,618,070,000 bu**
Mar 22	$4.59 ½	⇧ $0.0425	$0.02^{333}	2,736 Contracts / 13,680,000 bu	33,623 Contracts / 168,115,000 bu
May 22	$4.63	⇧ $0.0425	$0.01^{75}	385 Contracts / 1,925,000 bu	4,567 Contracts / 22,835,000 bu
July 22	$4.63 ½	⇧ $0.0075	$0.00^{25}	781 Contracts / 3,905,000 bu	19,173 Contracts / 95,865,000 bu

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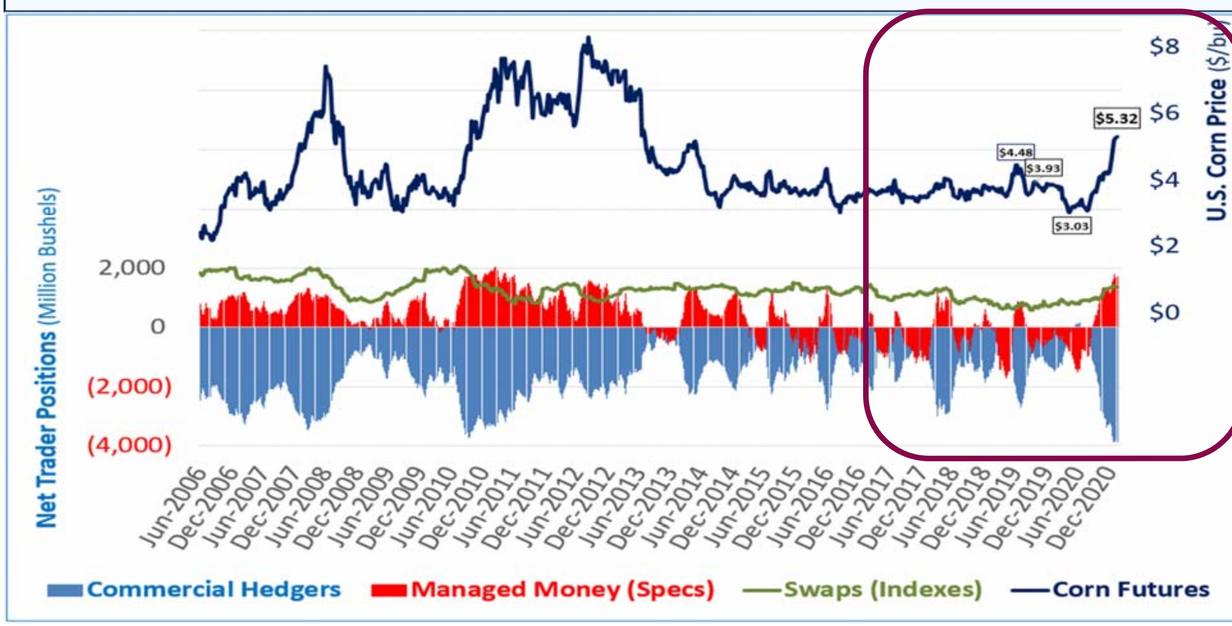
Net Positions of Traders in CME Corn

CFTC Commitment of Traders to 1/26/2021 + 1/26 MAR-2021 Corn Close



Commercial Traders (Hedgers) Positions in CME Corn

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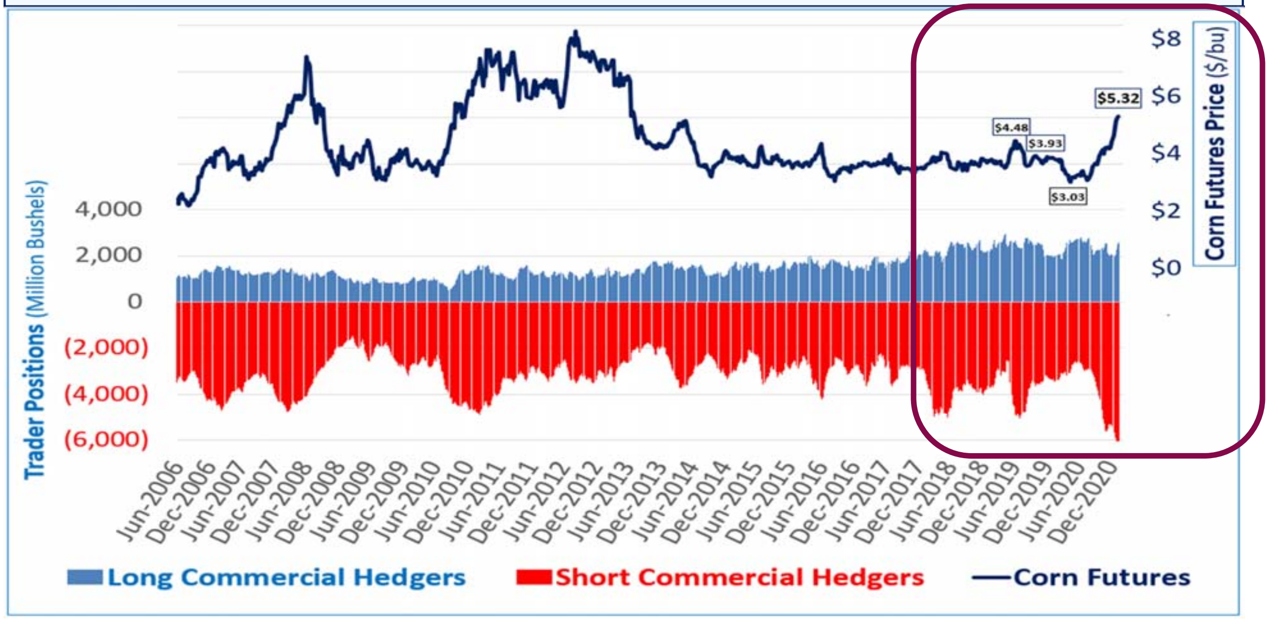
CFTC Commitment of Traders to 1/26/2021 + 1/26 MAR-2021 Corn Close



Managed Money (Spec) Positions in CME Corn

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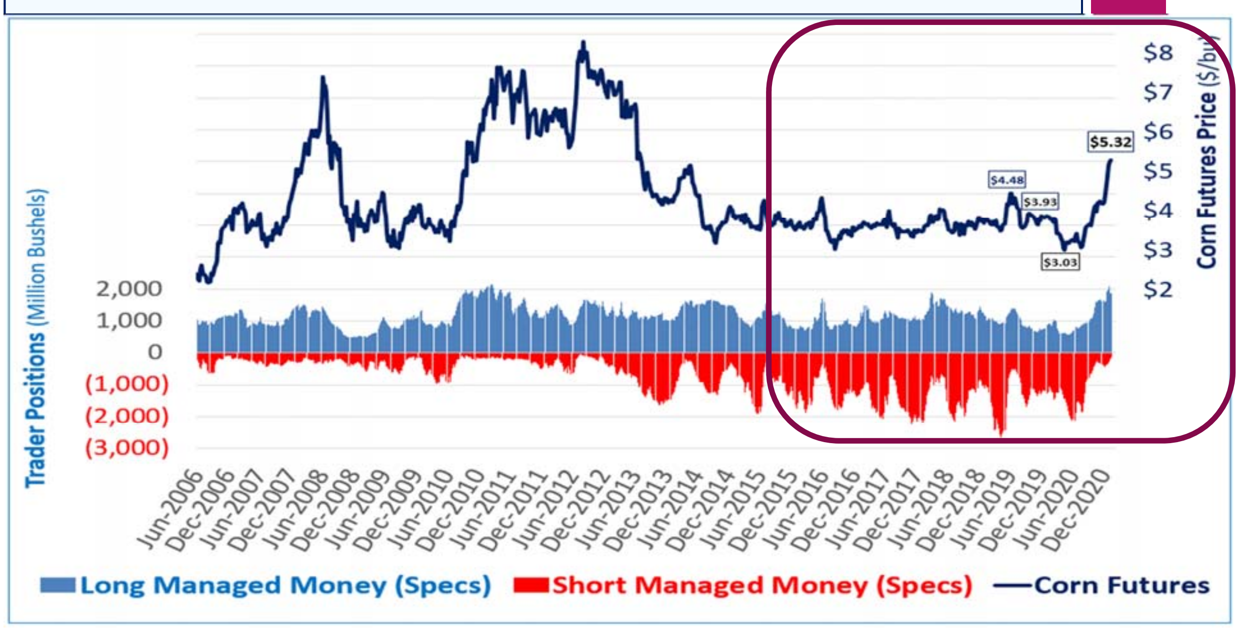
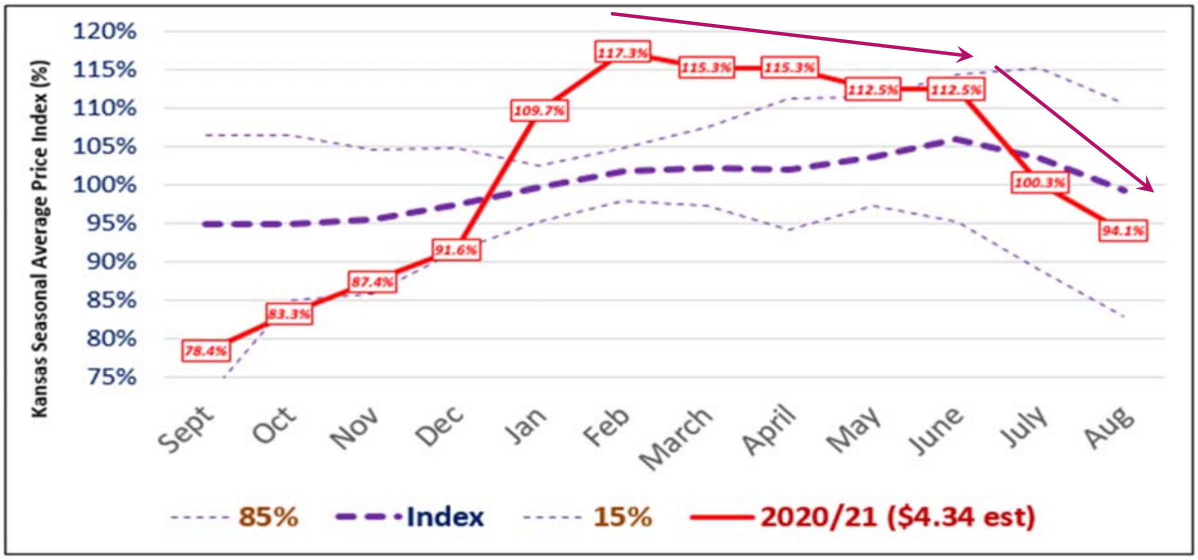
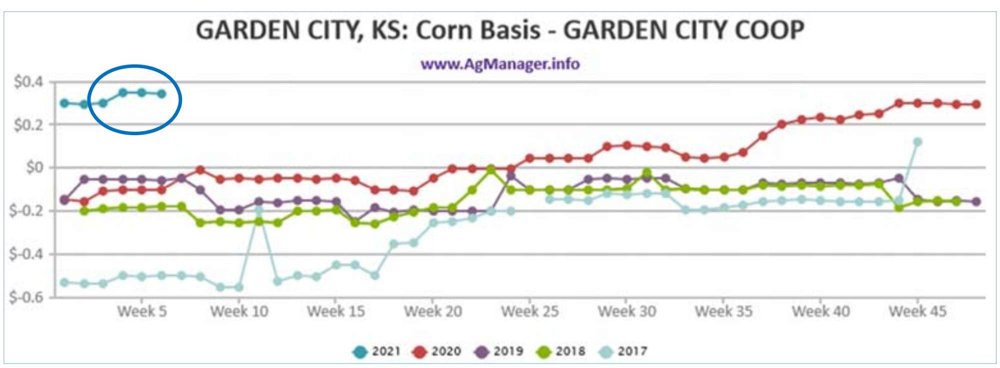
CFTC Commitment of Traders to 1/26/2021 + 1/26 MAR-2021 Corn Close

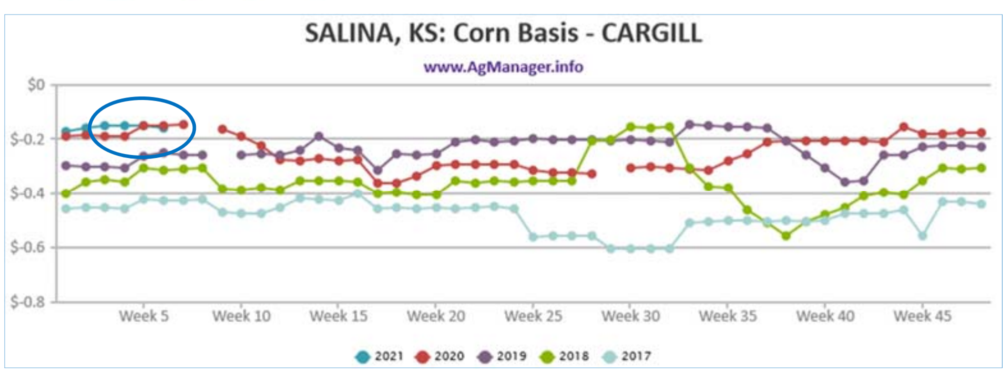


KS Corn Seasonal Avg. Price Index (%)

Monthly: Index since 1999/00 + "New Crop" MY 2020/21 *through 2/11/2021*







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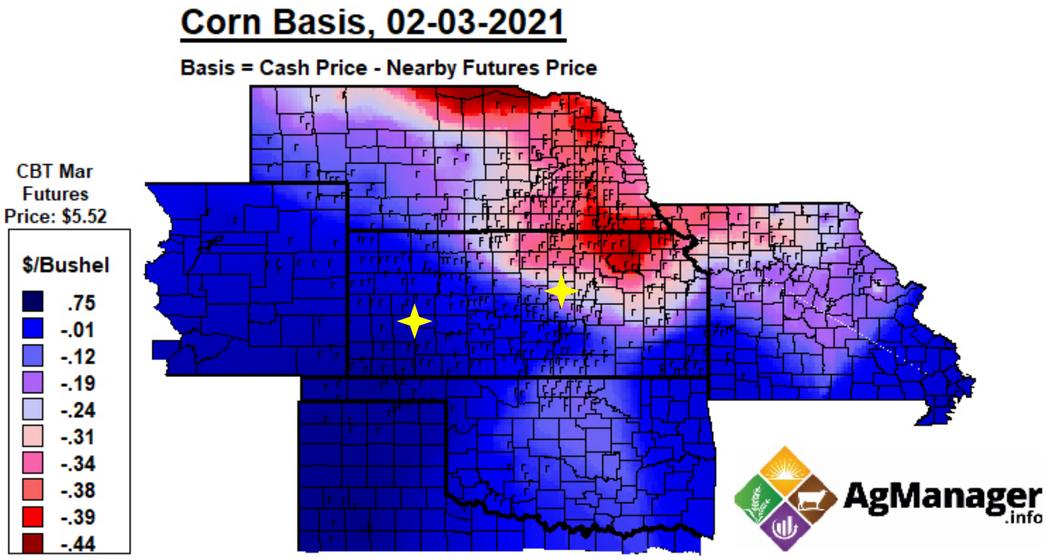

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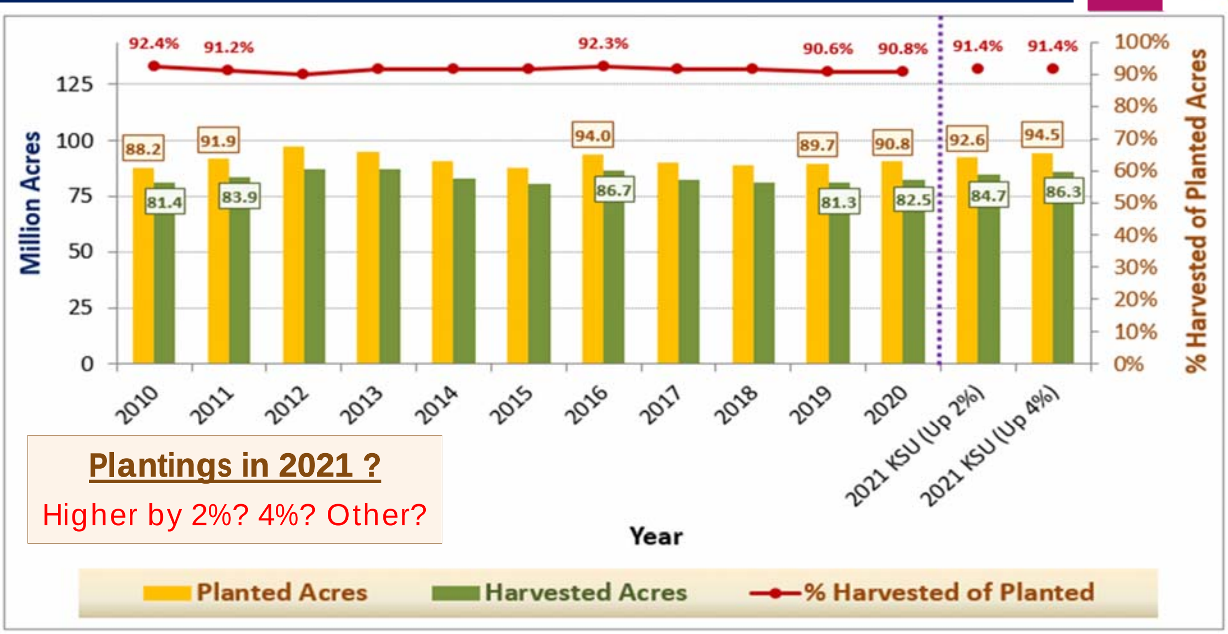
Futures Closes & Closing Cash & FC Prices with Grain Price Ratios on Thursday, February 11, 2021:

•	**"Current Crop$^{2020/21}$"**	⇨	**$MAR^{2020} Soybeans**	**÷ $MAR^{2020} Corn**	**= $13.67 ¾**	**÷ $5.41**	**= 2.53**
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Colby, KS}$	÷ Corn$^{Colby, KS}$	= $12.88	÷ $5.51	= 2.34
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Garden City, KS}$	÷ Corn$^{Garden City, KS}$	= $12.88	÷ $5.76	= 2.24
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Salina, KS}$	÷ Corn$^{Salina, KS}$	= $13.26	÷ $5.27	= 2.52
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Hutchinson, KS}$	÷ Corn$^{Hutchinson, KS}$	= $13.33	÷ $5.46	= 2.44
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Topeka, KS}$	÷ Corn$^{Topeka, KS}$	= $13.38	÷ $5.21	= 2.57
•	"Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Columbus, KS}$	÷ Corn$^{Columbus, KS}$	= $13.18	÷ $5.55	= 2.37
•	**"Next Crop$^{2021/22}$"**	⇨	**$NOV^{2021} Soybeans**	**÷ $DEC^{2021} Corn**	**= $11.74 ¼**	**÷ $4.52 ½**	**= 2.60**
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Colby, KS}$	÷ Corn$^{Colby, KS}$	= $10.75	÷ $4.43	= 2.43
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Garden City, KS}$	÷ Corn$^{Garden City, KS}$	= $10.84	÷ $4.54	= 2.39
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Salina, KS}$	÷ Corn$^{Salina, KS}$	= $11.15	÷ $4.33	= 2.58
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Hutchinson, KS}$	÷ Corn$^{Hutchinson, KS}$	= $10.94	÷ $4.43	= 2.47
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Topeka, KS}$	÷ Corn$^{Topeka, KS}$	= $11.14	÷ $4.23	= 2.63
•	"NC Soybeans/Corn$^{2/11/2021}$"	⇨	Soybeans$^{Columbus, KS}$	÷ Corn$^{Columbus, KS}$	= $10.94	÷ $4.28	= 2.56

Futures Closes & Closing Cash & FC Prices with Grain Price Ratios on Thursday, February 11, 2021:

•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Colby, KS}}$	÷ Corn$^{\text{Colby, KS}}$	= $ 5.76	÷ $5.51	= 1.05
•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Garden City, KS}}$	÷ Corn$^{\text{Garden City, KS}}$	= $ 5.88	÷ $5.83	= 1.01
•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Salina, KS}}$	÷ Corn$^{\text{Salina, KS}}$	= $ 6.04	÷ $5.27	= 1.15
•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Hutchinson, KS}}$	÷ Corn$^{\text{Hutchinson, KS}}$	= $ 6.04	÷ $5.46	= 1.11
•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Topeka, KS}}$	÷ Corn$^{\text{Topeka, KS}}$	= $ 5.99	÷ $5.21	= 1.15
•	"HRW Wheat/Corn$^{2/11/2021}$" ⇨	Wheat$^{\text{HRW-Columbus, KS}}$	÷ Corn$^{\text{Columbus, KS}}$	= $ 6.11	÷ $5.63	= 1.09
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Colby, KS}}$	÷ Corn$^{\text{Colby, KS}}$	= $ 6.77	÷ $5.51	= 1.23
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Garden City, KS}}$	÷ Corn$^{\text{Garden City, KS}}$	= $ 6.76	÷ $5.83	= 1.16
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Salina, KS}}$	÷ Corn$^{\text{Salina, KS}}$	= $ 6.92	÷ $5.27	= 1.31
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Hutchinson, KS}}$	÷ Corn$^{\text{Hutchinson, KS}}$	= $ 6.86	÷ $5.46	= 1.26
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Topeka, KS}}$	÷ Corn$^{\text{Topeka, KS}}$	= $ 6.98	÷ $5.21	= 1.34
•	"Sorghum/Corn$^{2/11/2021}$" ⇨	Sorghum$^{\text{Columbus, KS}}$	÷ Corn$^{\text{Columbus, KS}}$	= $ 6.08	÷ $5.63	= 1.08

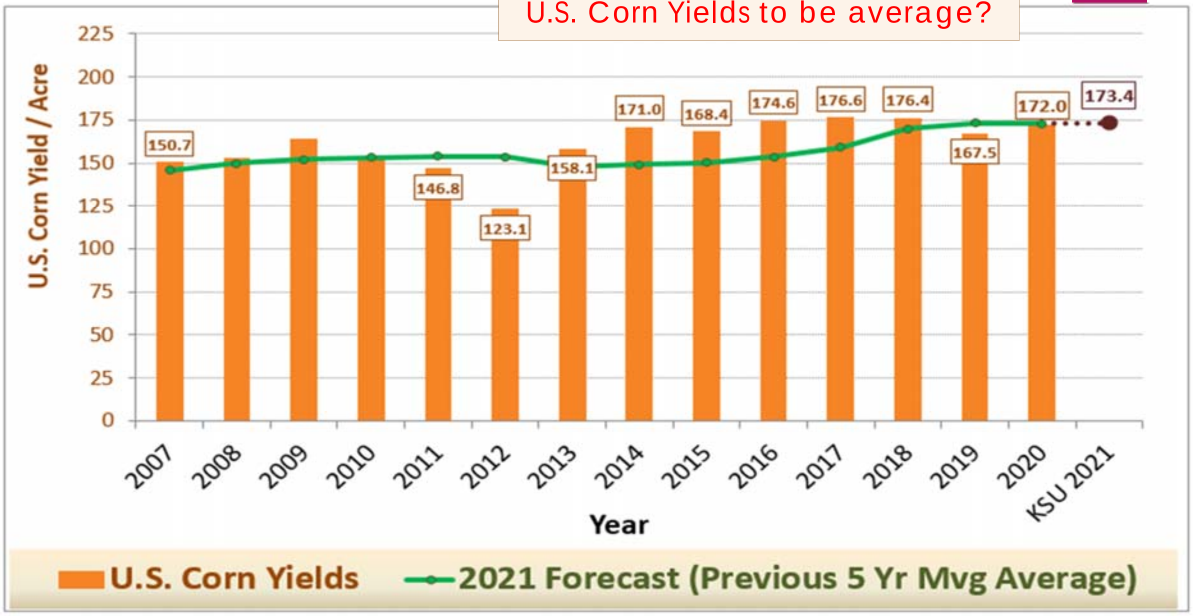
U.S. Corn Acreage



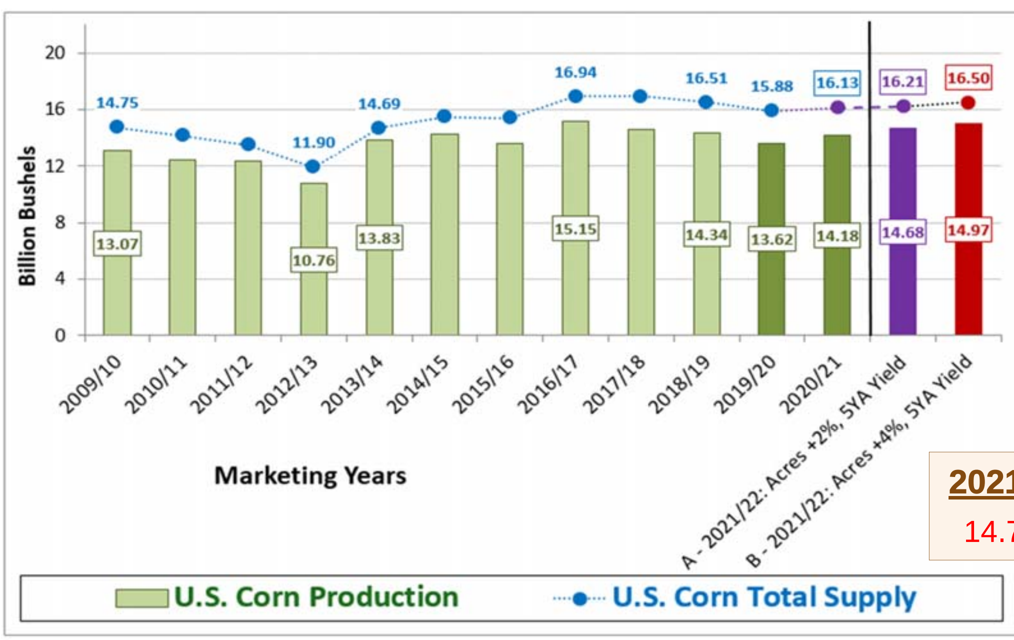
U.S. Corn Yields

Expectations in 2021 ?

U.S. Corn Yields to be average?



U.S. Corn Production & Supplies



2021 U.S. Production

14.7 - 15.0 bb range

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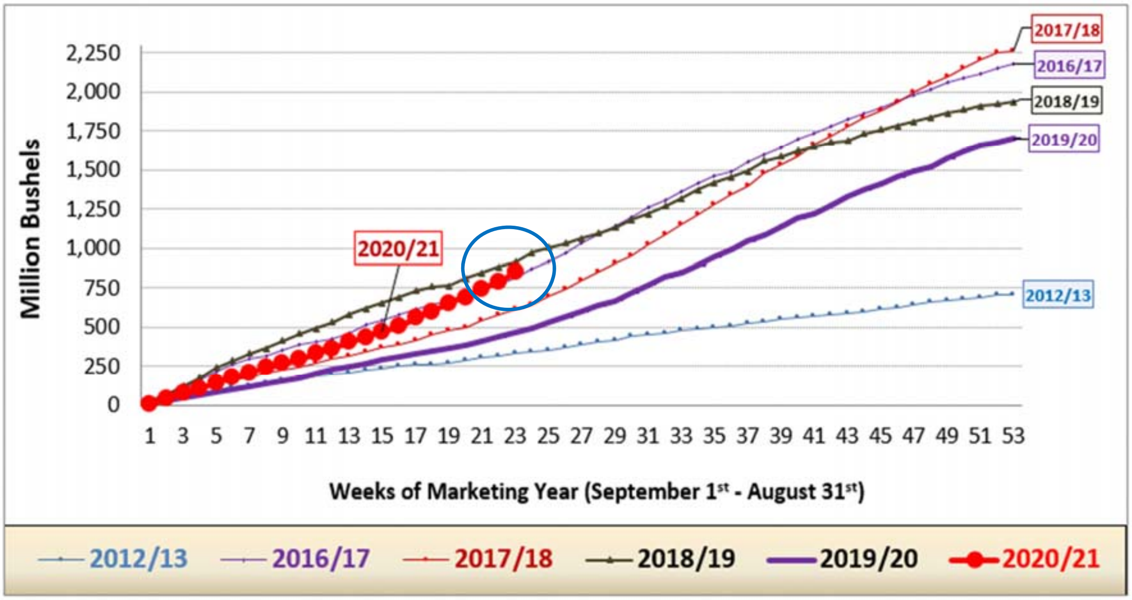
U.S. Corn Exports for MY 2012/13 & 2016/17 through "New Crop" MY 2020/21 based on USDA Foreign Agricultural Service Weekly Export reports thru 2/4/2021 (End of marketing year on 8/31)



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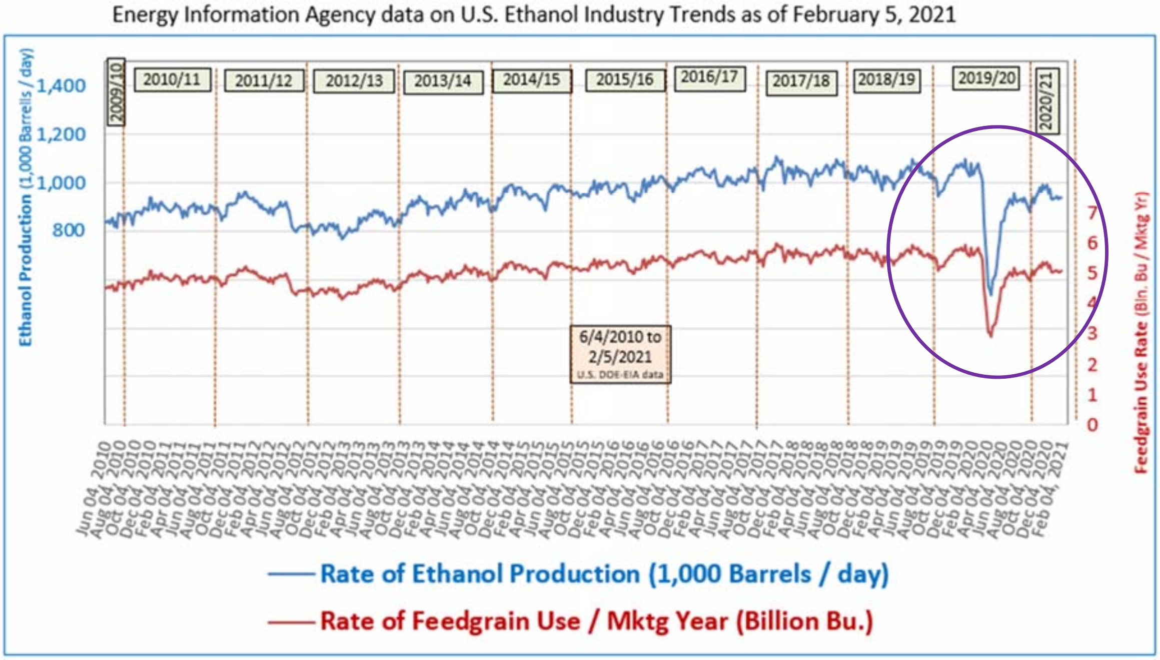
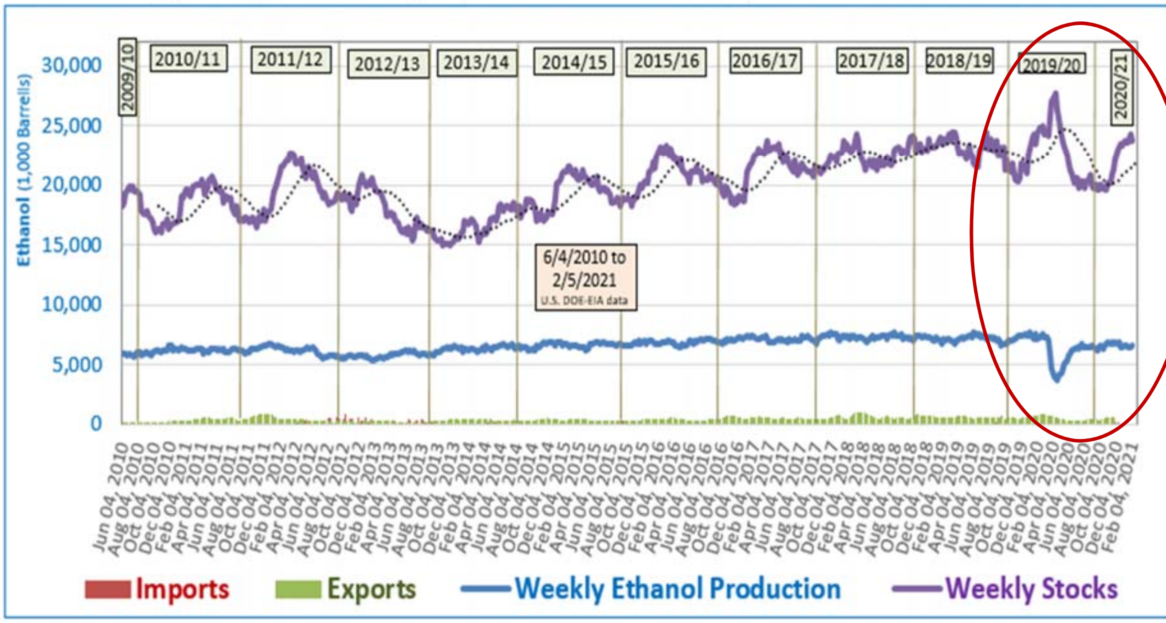
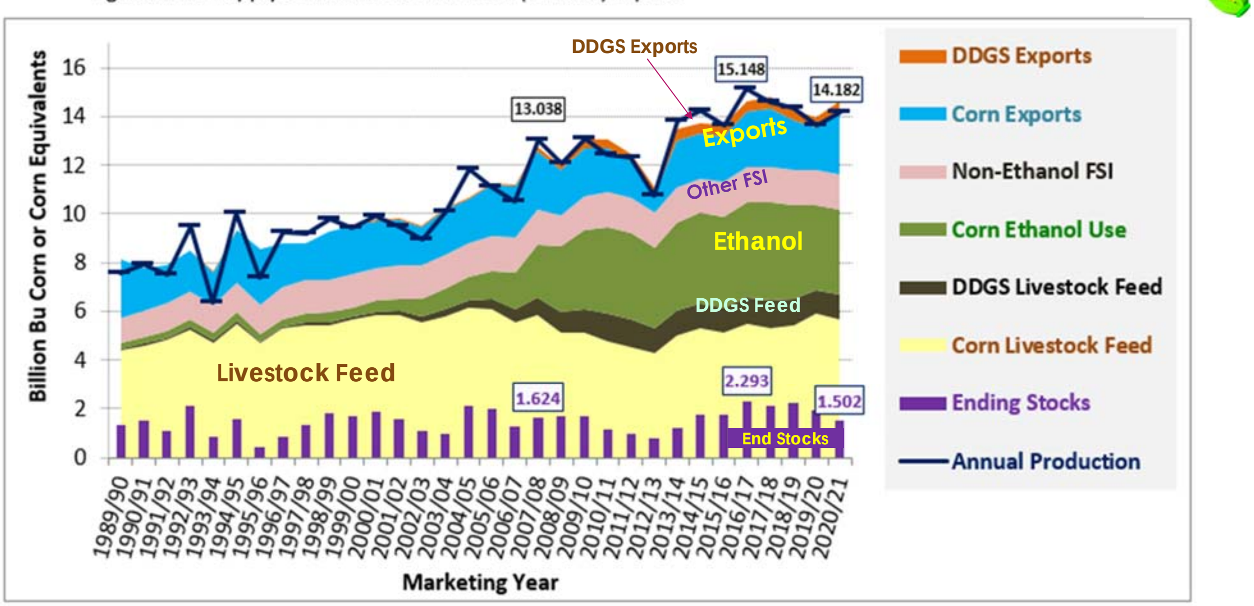
Weekly U.S. Oxygenate Plant Production of Fuel Ethanol & Estimated Corn Use based on Energy Information Agency data on U.S. Ethanol Industry Trends as of February 5, 2021



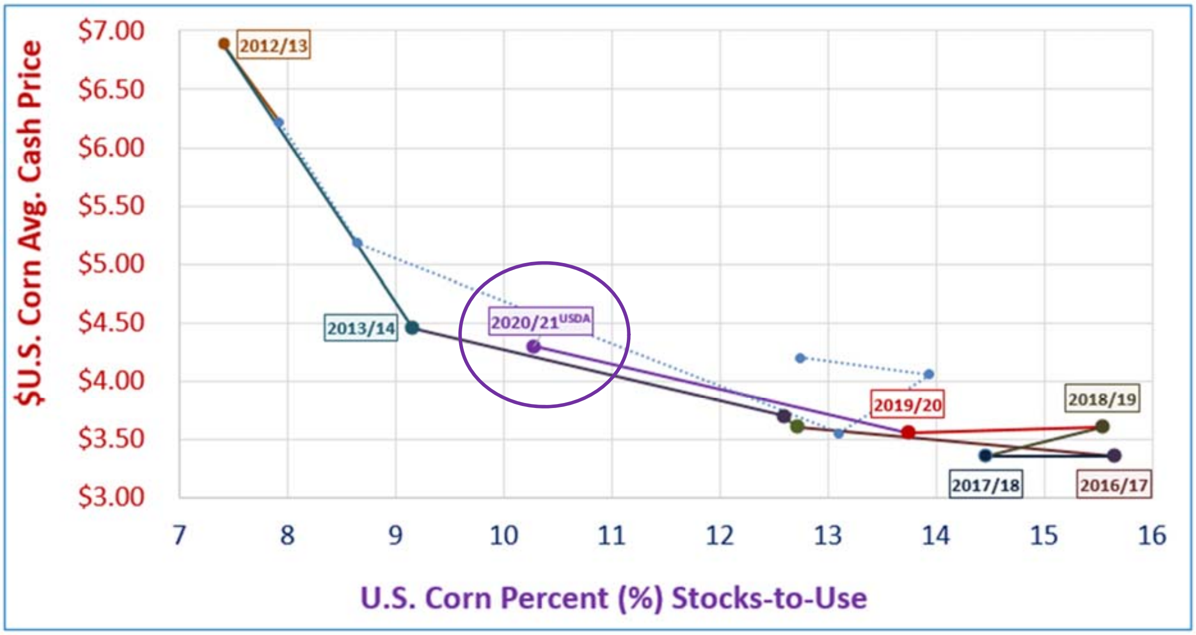
Weekly U.S. Ethanol Production, Use, Imports, Exports & Stocks based on U.S. Department of Energy – Energy Information Agency data on U.S. Ethanol Industry Trends as of 2/5/2021



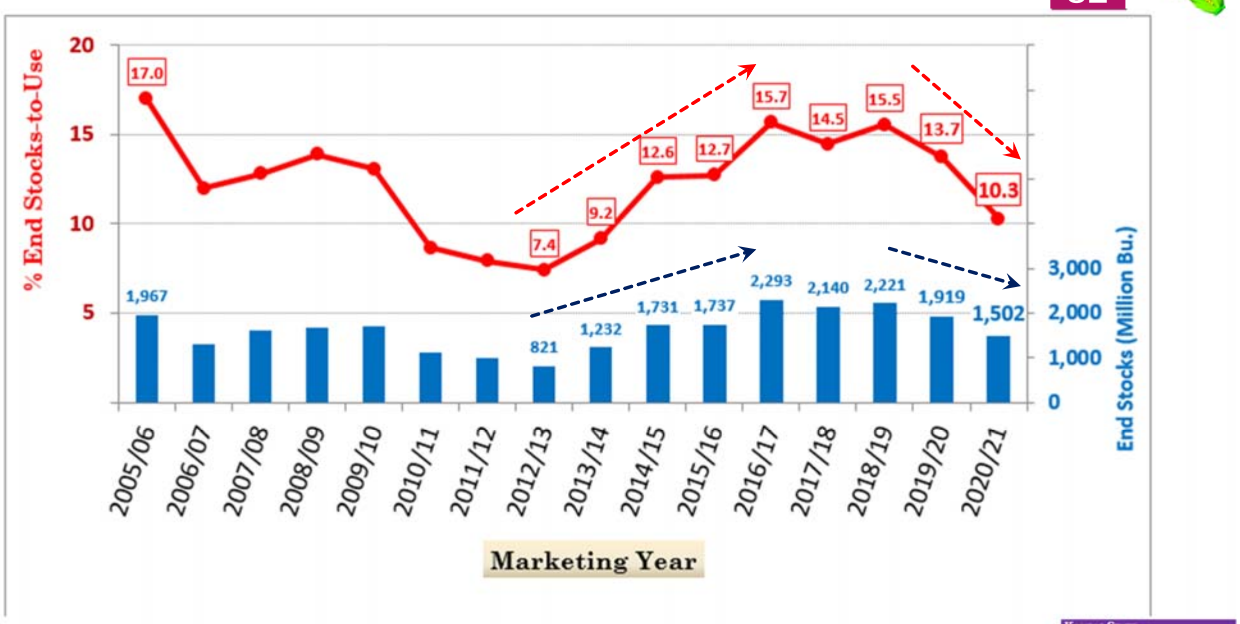
U.S. Corn Supply-Demand with DDGS Adjustments as of the February 9, 2021 USDA World Agricultural Supply and Demand Estimates (WASDE) report



U.S. Corn Price vs U.S. % Stocks-to-Use, MY 2007/08 through "New Crop" MY 2020/21: as of the February 9, 2021 USDA WASDE report



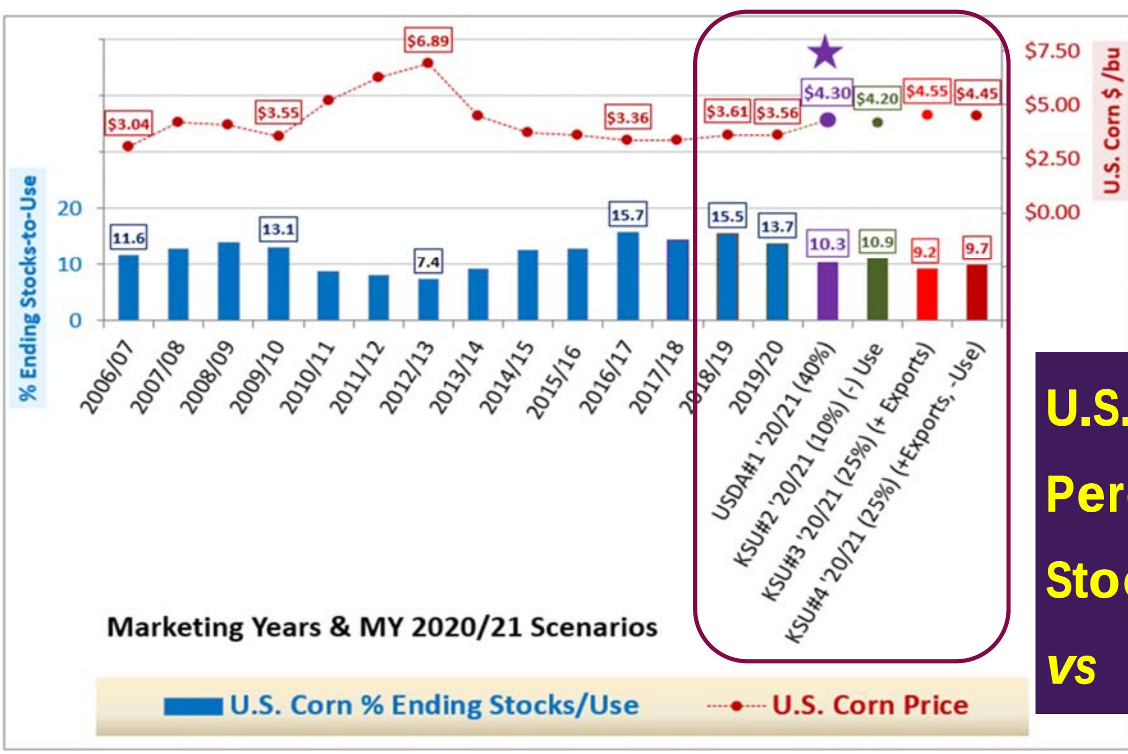
U.S. Corn Ending Stocks & % Stx/Use



Scenarios for U.S. Corn S-D & Price$ *for* "Current Crop" MY 2020/21

9/1/2020 – 8/31/2021

Item	USDA 2020/21 2/9/2021 WASDE	KSU Scenario #2 MY 2020/21 Less Ethanol /Feed Use (⇩75 mb total)	KSU Scenario #3 MY 2020/21 More Exports (up 150 mb)	KSU Scenario #4 MY 2020/21 More Exports & Less Ethanol/Feed
*% Probability of Occurring **(KSU)***	***40%** KSUest*	***10%** KSUest*	***25%** KSUest*	***25%** KSUest*
Planted Area (million acres)	**90.819**	**90.819**	**90.819**	**90.819**
Harvested Area (million acres)	82.527	82.467	82.467	82.467
% Harvested/Planted Area	90.9%	90.8%	90.8%	90.8%
Yield / harvested acre (bu/ac)	172.0	172.0	172.0	172.0
			Million Bushels	
Beginning Stocks (million bushels)	1,919	1,919	1,919	1,919
Production (million bu.)	**14,182**	**14,182**	**14,182**	**14,182**
Imports (million bu.)	25.0	25.0	25.0	25.0
Total Supply (million bu.)	**16,127**	**16,127**	**16,127**	**16,127**
Ethanol for fuel Use (million bu.)	4,950	4,900	4,950	4,900
Food & Industrial Use (mln bu.)	1,393	1,393	1,393	1,393
Seed Use (million bu.)	31.8	31.8	31.8	31.8
Exports (million bu.)	2,600	2,600	2,750	2,750
Feed & Residual Use (million bu.)	5,650	5,600	5,650	5,60
Total Use (million bu.)	**14,625**	**14,525**	**14,775**	**14,700**
Ending Stocks (million bu.)	1,502	1,577	1,352	1,427
% Ending Stocks-to-Use	**10.27%**	**10.86%**	**9.15%**	**9.71%**
Days of Supply (% S/U x 365 days)	*37.5 days*	*39.6 days*	*33.4 days*	*35.4 days*
U.S. Corn Average Farm Price ($/bushel)	**$4.30**	**$4.20**	**$4.55**	**$4.45**



U.S. Corn Percent % Stocks/Use *vs* Price$

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Scenarios for U.S. Corn S-D & Price$ *for* "Next Crop" MY 2021/22

9/1/2021 – 8/31/2022

Item	KSU Scenario #5 MY 2021/22 102% of 2020 Planted Acres 5 Yr. Avg Yields	KSU Scenario #6 MY 2021/22 104% of 2020 Planted Acres 5 Yr. Avg Yields
% Probability of Occurring (KSU)	*50%KSUest*	*50%KSUest*
Planted Area (million acres)	**92.635**	**94.452**
Harvested Area (million acres)	84.669	86.329
% Harvested/Planted Area	91.4%	91.4%
Yield / harvested acre (bu/ac)	173.4	173.4
Beginning Stocks (million bushels)	1,502	1,502
Production (million bu.)	**14,682**	**14,969**
Imports (million bu.)	25.0	25.0
Total Supply (million bu.)	**16,209**	**16,496**
Ethanol for fuel Use (million bu.)	4,950	4,950
Food & Industrial Use (mln bu.)	1,393	1,393
Seed Use (million bu.)	31.8	31.8
Exports (million bu.)	2,600	2,600
Feed & Residual Use (million bu.)	5,650	5,650
Total Use (million bu.)	**14,625**	**14,625**
Ending Stocks (million bu.)	1,585	1,871
% Ending Stocks-to-Use	**10.83%**	**12.79%**
Days of Supply (% S/U x 365 days)	*38.9 days*	*46.7 days*
U.S. Corn Average Farm Price ($/bushel)	**$4.20**	**$3.70**

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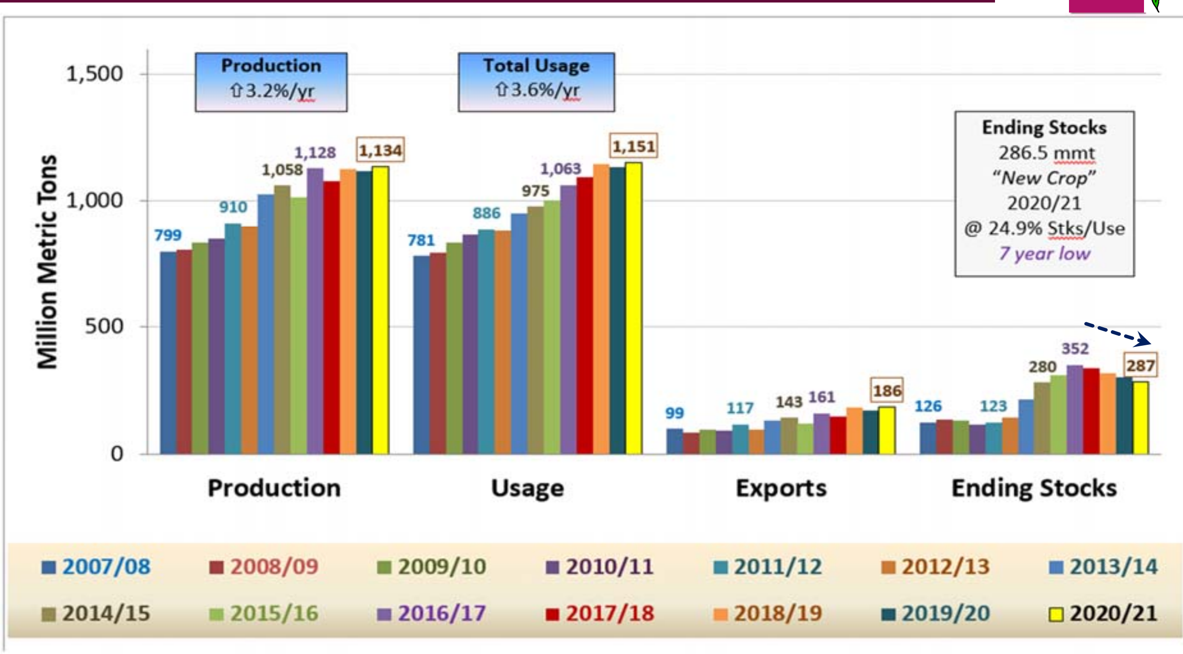
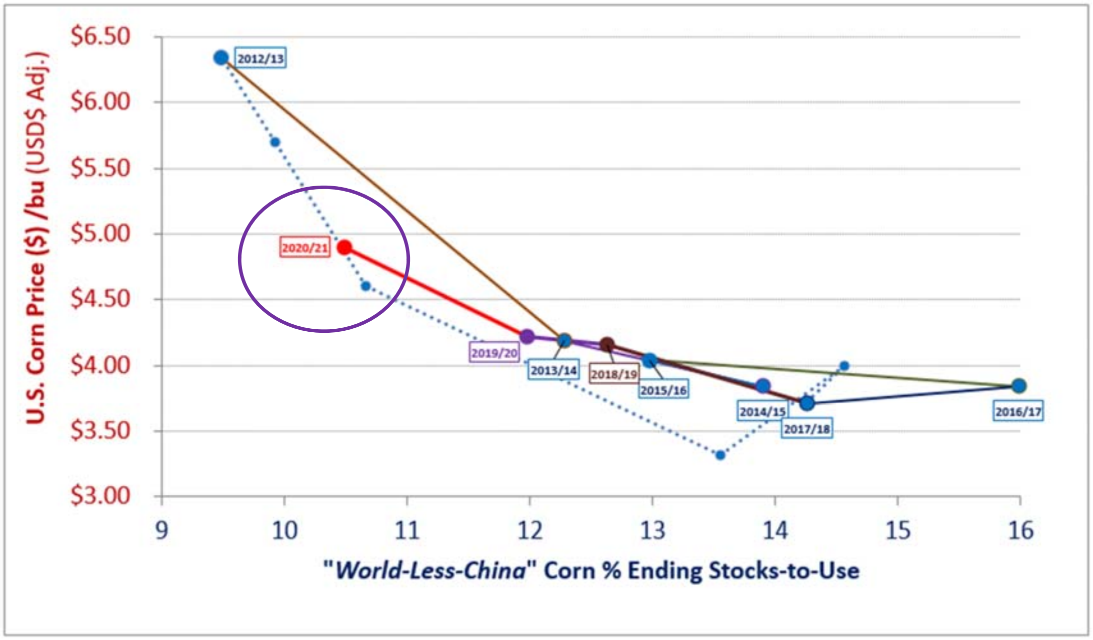
World Corn Supply, Use & Stocks



U.S. Corn Price (USD$ Adj.) vs % "*World-Less-China*" Corn Stocks-to-Use: MY 2007/08 through "New Crop" MY 2020/21, as of the February 9, 2021 USDA WASDE report.



U.S. vs % "*World-Less-China*" Corn Stocks-to-Use: MY 2007/08 through "New Crop" MY 2020/21, as of the February 9, 2021 USDA WASDE report.

Questions?

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