Grain Market Outlook for 2021-22

2021 Risk & Profit Conference

Manhattan, Kansas

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Topics to be discussed…..

1) Driving Factors in 2021 Grain Markets

- Production Issues U.S.-World ⇨ *"tight"* Stocks/Use - *"high"* Price$

2) Grain Market Analysis & Outlook

- Wheat
  - Grain Sorghum
    - Corn
      - Soybeans

Most Recent Grain Market Headlines…..

Developing La Nina Threatens New Argentina Soy Season: Exchange – Analyst, 8/18/2021

Groups Tell Court E15 Ruling Will Have "Devastating" Consequences – Reuters, 8/18/2021

Bangladesh said to get no offers in 50,000 tonne wheat purchase tender- trade – Reuters, 8/18/2021

Russia's agriculture ministry pauses grain harvesting data – Reuters, 8/18/2021

Record Brazil corn imports for the Jan-Jul period? A harbinger of imports to come in Aug-Dec? – AgRural, 8/18/2021

Kazakhstan on track to meet 2021-2022 grain export target of 6.5-7 mln tonnes – Reuters, 8/18/2021

Egypt's GASC Pays Highest Price in Over 6 Years for Wheat. Costs up $38 MT in Just two weeks, Up $106 MT in the Past Year – AgResource, 8/18/2021

More Recent Wheat Market Headlines…..

Manitoba farmers expect canola yields to drop to 10-year lows – AgResource, 8/18/2021

Some precip next 5 days for 60% western Corn Belt; No clear price direction for corn futures; Some support for MPLS wheat – AgResource, 8/18/2021

NOPA July soy crush at 155.105 million bushels, below all estimates– Reuters, 8/16/2021

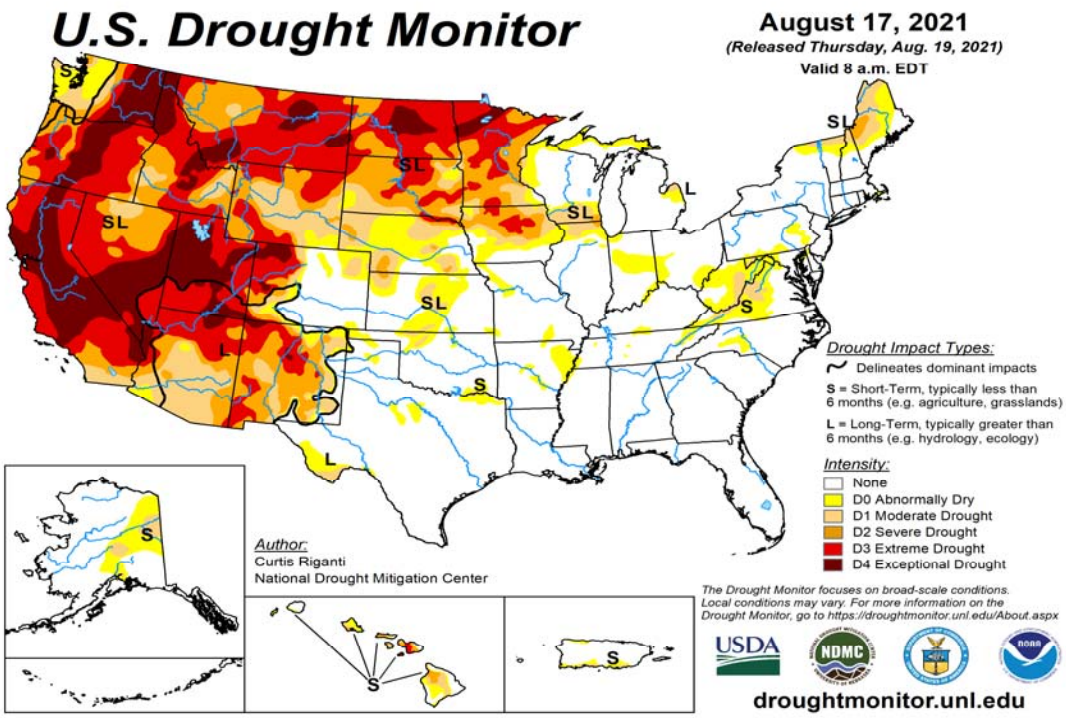
Parana low water levels 'could last to end-2021': INA – Analyst, 8/16/2021

WTI Crude Oil Implied Volatility Rises – CME Group, 8/16/2021

Northern Corn Belt drought conditions worsen – Successful Farming, 8/16/2021

Rain-hit French wheat crop shows uneven test weights -France AgriMer & Kazakh ban feed export – Analyst, 8/162021

Russian wheat prices jump $20 in past week – Analyst, 8/16/2021



Driving Factors in 2021 Grain Markets

1) 2021 Drought in the Northern U.S. & in Canada

- **U.S. Corn Production** 2021 - August USDA Crop Production
  - Yield = 174.6 bu/ac ⇨ ↓4.9 bu/ac vs July2021
  - Production = 14.750 billion bu. ⇨ ↓415 bb vs July2021 *(15.165 bb)*

- **U.S. Soybean production** 2021 - August USDA Crop Production
  - Yield = 50.0 bu/ac ⇨ ↓0.8 bu/ac vs July2021
  - Production = 4.339 billion bu. ⇨ ↓66 bb vs July2021 *(4.405 bb)*

1) 2021 Drought - U.S. & Canada….

- **U.S. Spring Wheat Production** 2021 - August USDA Crop Production
  - Yield = 30.6 bu/ac ⇨ ↓ from 48.6 bu/ac in year 2020
  - Production = 343.4 million bu. ⇨ ↓ from 586 mln bu in year 2020
- **U.S. White Winter Wheat Production** 2021 - August USDA Crop Production
  - Production = 176.4 million bu. ⇨ ↓ from 246 mln bu in year 2020
- **Canada Spring Wheat production** 2021 - August USDA WASDE
  - Production = 24.0 mmt (882 mln bu) ⇨ ↓ 7.5 mmt (↓ 276 mb) vs July2021
    ⇨ ↓ 11.2 mmt (↓ 411 mb) vs year 2020

1) 2021 Drought - U.S. & Canada……

- **U.S. Barley Production** 2021 - August USDA Crop Production
  - Yield = 72 bu/ac ⇨ ↓ from 80 bu/ac in year 2020
  - Production = 106 million bu. ⇨ ↓ from 165 mln bu in year 2020
- **Canada Barley Production** 2021 - August USDA FAS PSD Online
  - Production = 8.8 mmt ⇨ ↓ from 10.741 mmt in year 2020
- **Canada Canola production** 2021 - August USDA FAS PSD Online
  - Production = 16.0 mmt ⇨ ↓ from 19.0 mmt in year 2020

Driving Factors in 2021 Grain Markets

2) 2021 *"Drought"* & *"Plenty"* in World Crop Areas

- **Brazil Corn Production** 2021 - August USDA WASDE
  - Production = 87 mmt ⇨ ↓ vs 102 – 118 mmt in years 2019-2020
- **Russia Wheat production** 2021 - August USDA WASDE
  - Production = 72.5 mmt ⇨ ↓ vs 85.4 mmt in 2020 & 73.6 mmt in 2021
- **Ukraine Wheat production** 2021 - August USDA WASDE
  - Production = 33.0 mmt ⇨ ↑ vs 25.4 – 29.2 mmt in years 2019-2020

2) 2021 World *"Drought"* & *"Plenty"*.....

- **Ukraine Coarse Grain Production** 2021 - August USDA WASDE
  - Production = 50.3 mmt ⇨ ↑ vs 39.6 – 46.6 mmt in years 2019-2020
- **Argentina Corn production** 2021 - August USDA Crop Production
  - Production = 60.8 mmt ⇨ ↑ vs 57.1 – 58.1 mmt in years 2019-2020
- **China Coarse Grain production** 2021 - August USDA Crop Production ***
  - Production = 275.4 mmt ⇨ ↑ vs 268 mmt in years 2019/2020

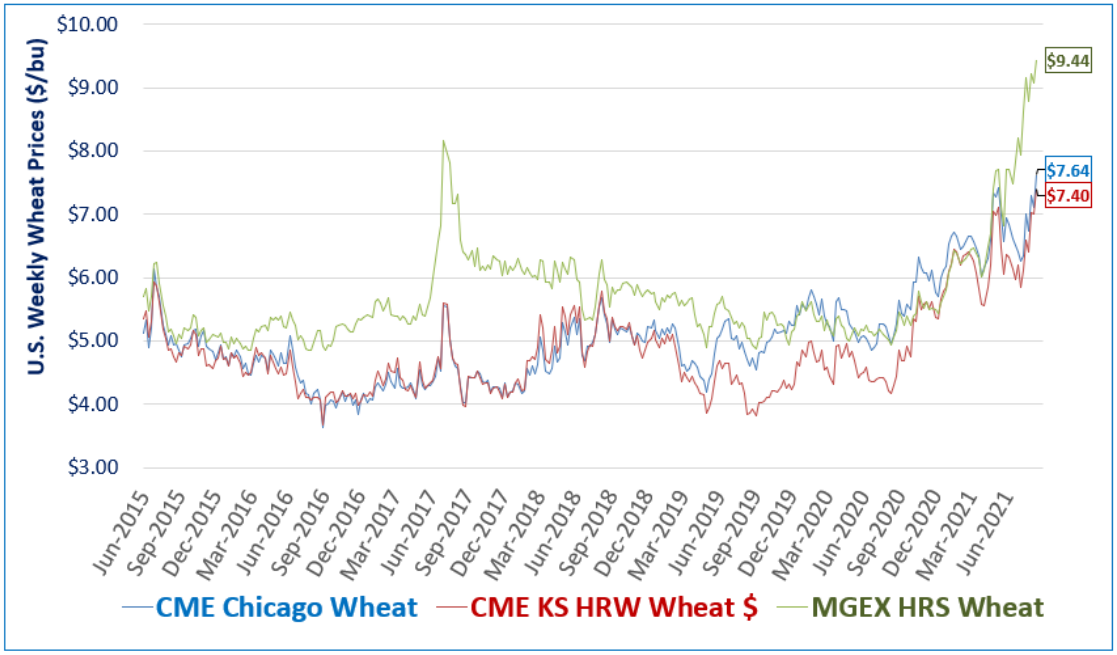
Driving Factors in 2021 Grain Markets

3) Tightening grain % End Stocks-to-Use: U.S. & World

- Wheat
- Corn
- Soybeans

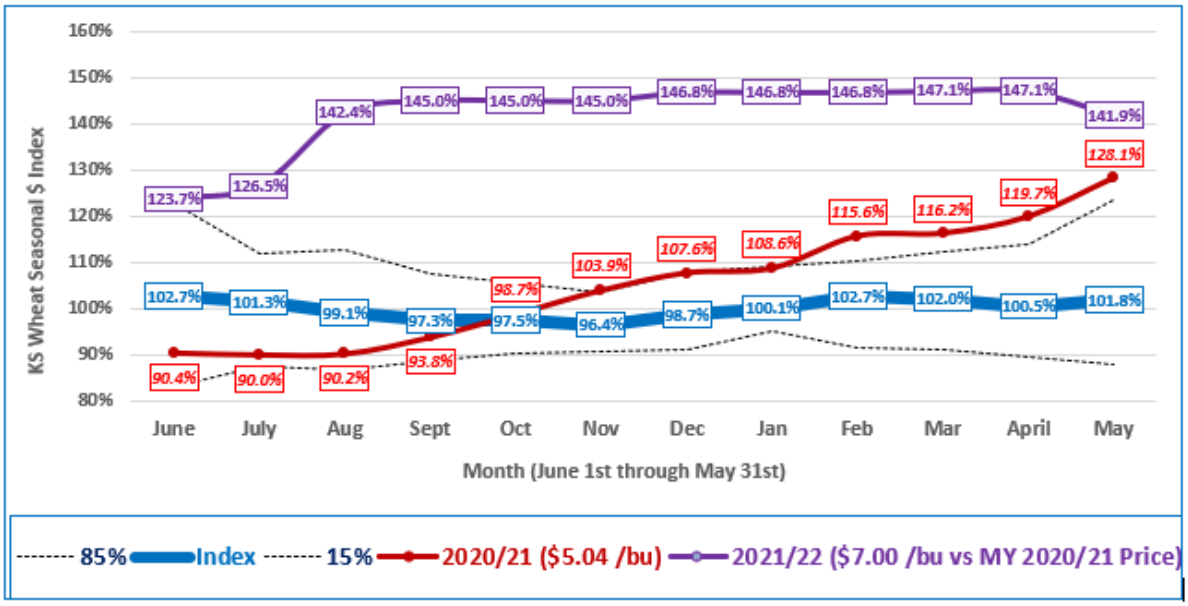
Wheat Markets

Continuous Weekly Wheat Futures Prices - CME Chicago & KC HRW Wheat Futures $'s + MGEX HRW Wheat Futures: June 2015 through August 16, 2021



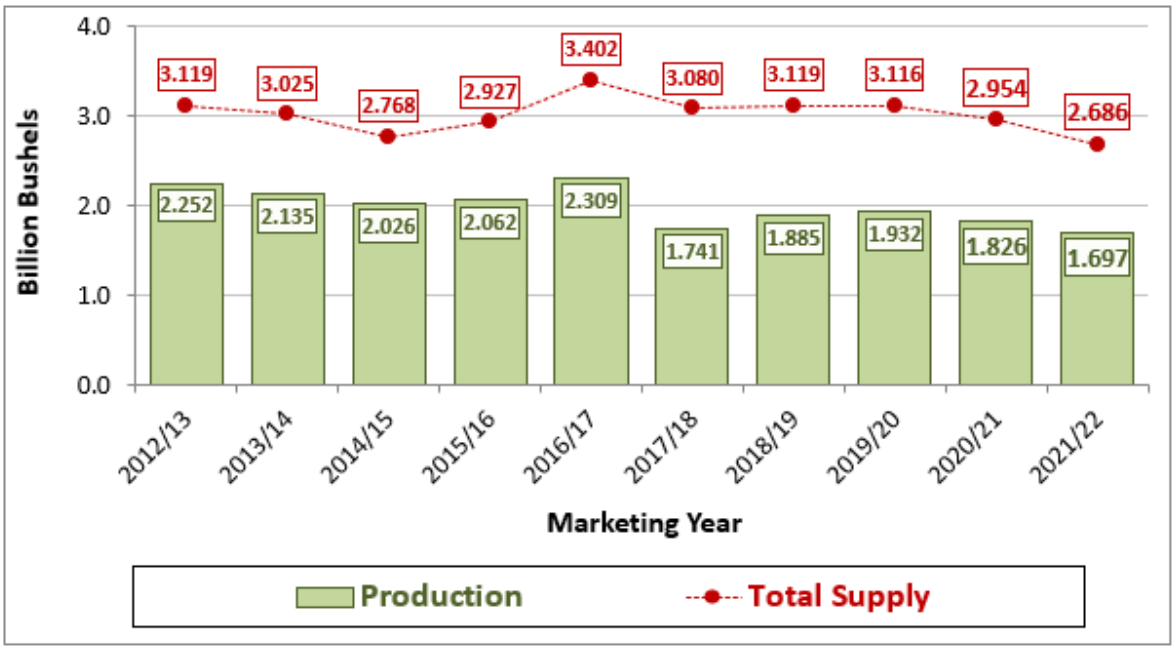
Seasonal Price Index for Kansas Hard Red Winter (HRW) Wheat:

MY 1999/00 – 2019/20 + "New Crop" MY 2021/22 Estimates through August 19, 2021



U.S. Wheat Total Supplies for MY 2012/13 – Projected MY 2020/2021

as of the August 12, 2021 USDA Crop Production & WASDE Reports

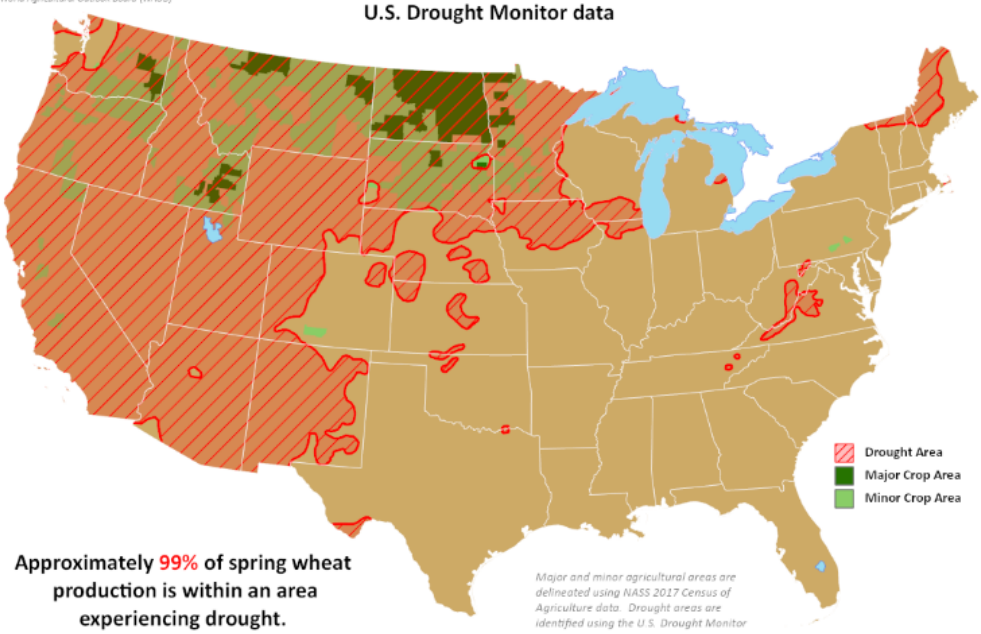


USDA United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Spring Wheat Areas in Drought

Reflects August 17, 2021
U.S. Drought Monitor data



Approximately 99% of spring wheat production is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

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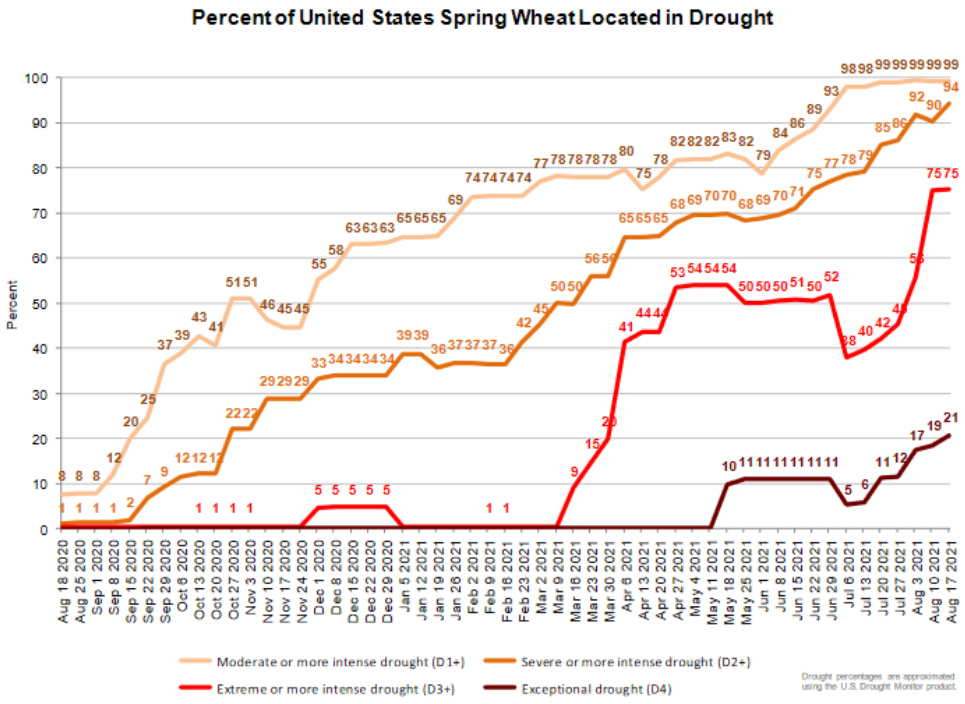
Percent of United States Spring Wheat Located in Drought
Percent
Moderate or more intense drought (D1+)
Severe or more intense drought (D2+)
Extreme or more intense drought (D3+)
Exceptional drought (D4)
Drought percentages are approximated using the U.S. Drought Monitor product.

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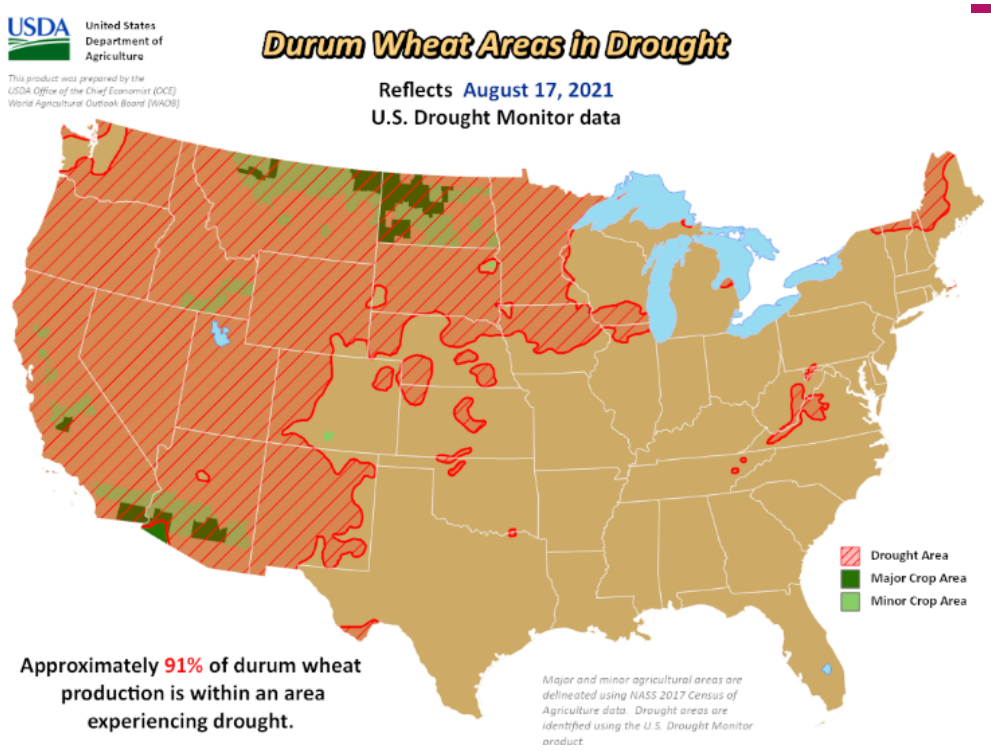
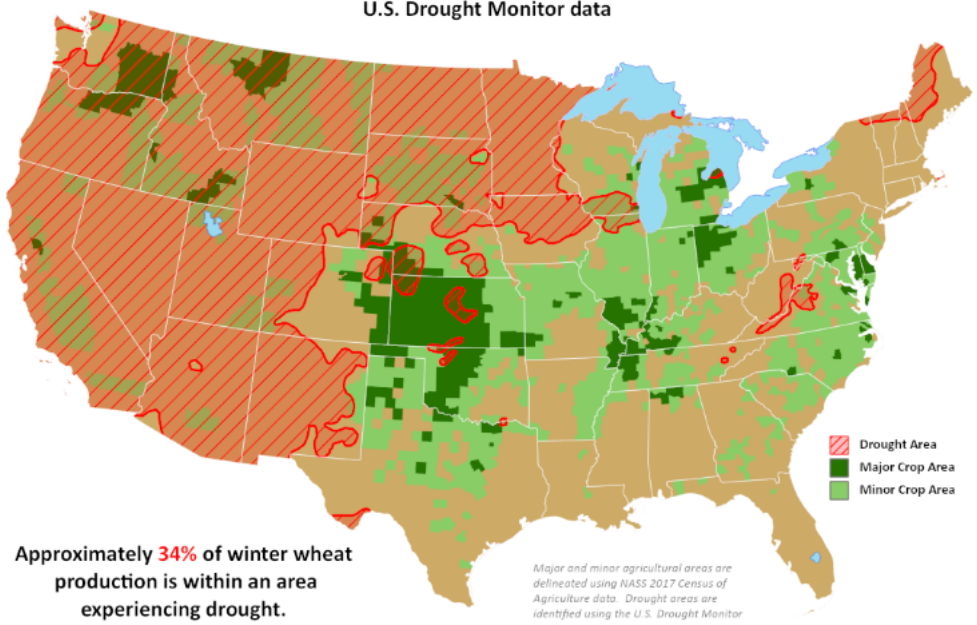

USDA United States Department of Agriculture
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)
Durum Wheat Areas in Drought
Reflects August 17, 2021
U.S. Drought Monitor data
Drought Area
Major Crop Area
Minor Crop Area
Approximately 91% of durum wheat production is within an area experiencing drought.
Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

USDA United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Winter Wheat Areas in Drought

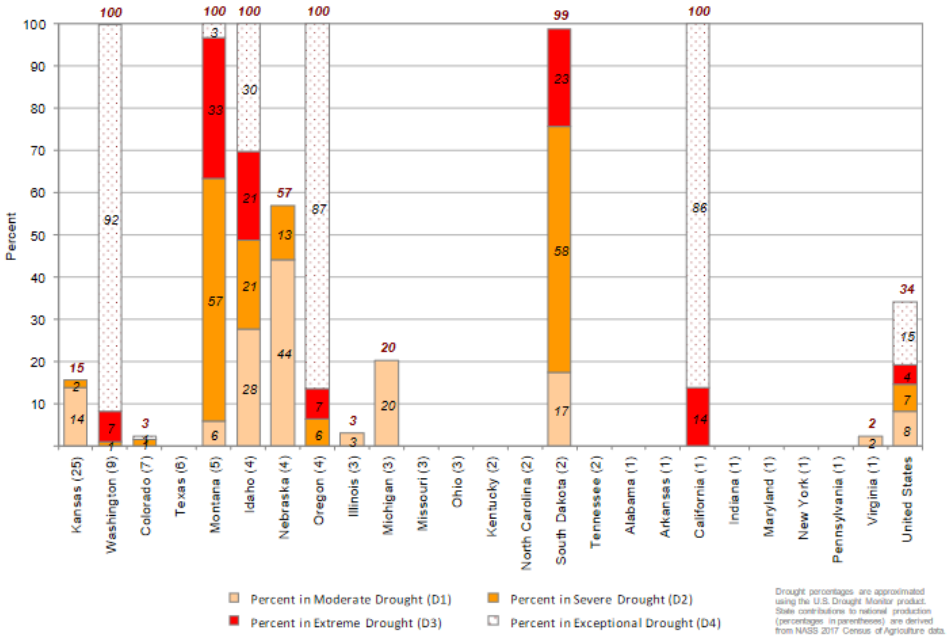
Reflects August 17, 2021
U.S. Drought Monitor data



Approximately 34% of winter wheat production is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

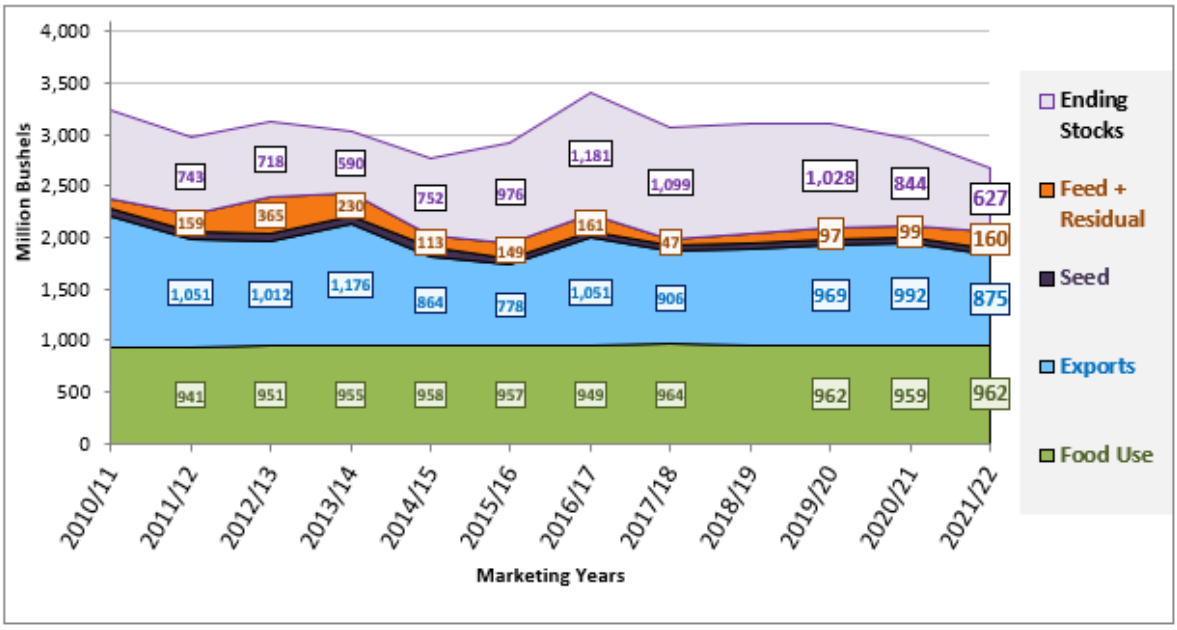
Percent of Winter Wheat Located in Drought
August 17, 2021



Drought percentages are approximated using the U.S. Drought Monitor product. State contributions to national production (percentages in parentheses) are derived from NASS 2017 Census of Agriculture data.

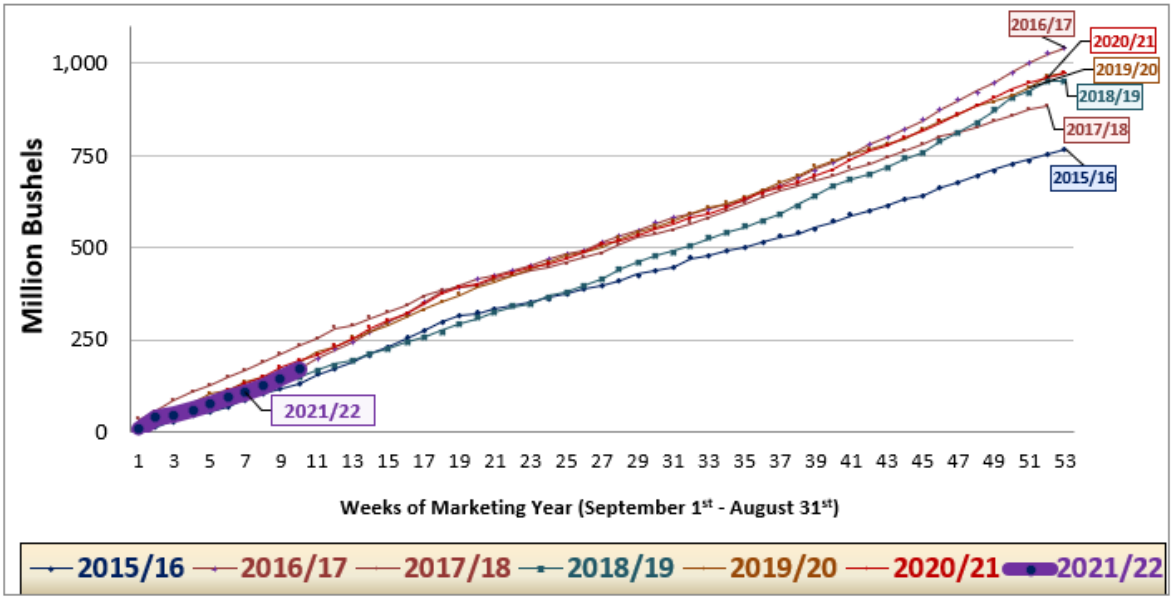
U.S. Wheat Use & Ending Stocks: MY 2010/11 – "*New Crop*" MY 2021/22

as of the August 12, 2021 USDA Crop Production & WASDE Reports

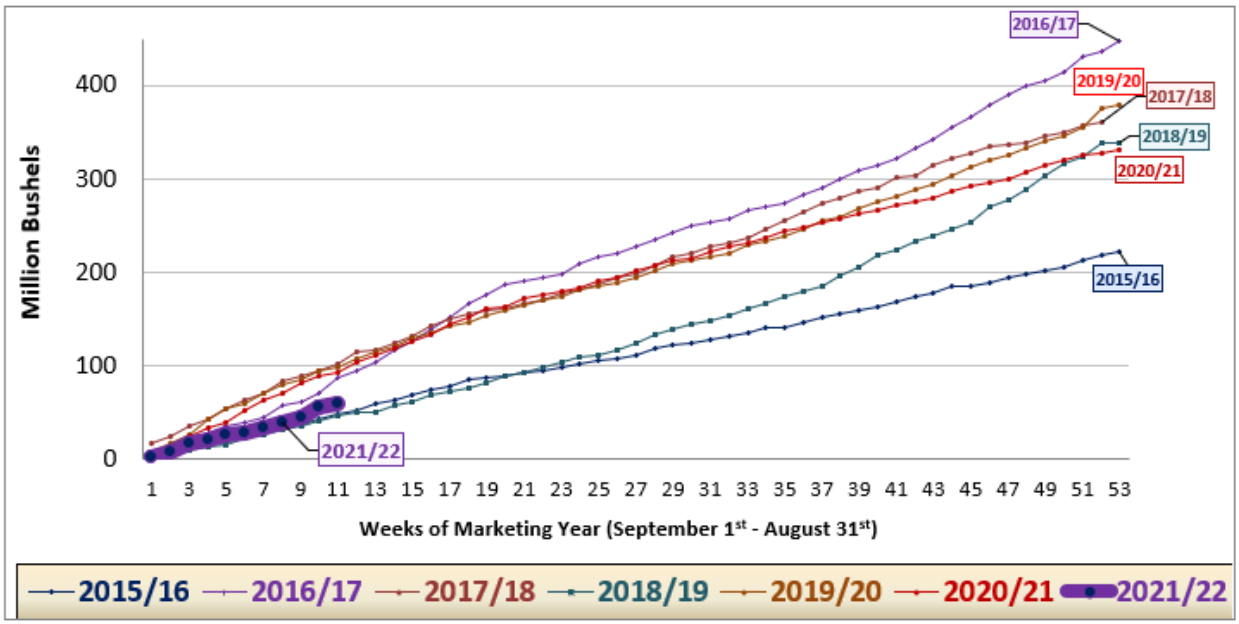


U.S. All Wheat Exports for MY 2015/16 thru "New Crop" MY 2021/22 as of USDA FAS Weekly

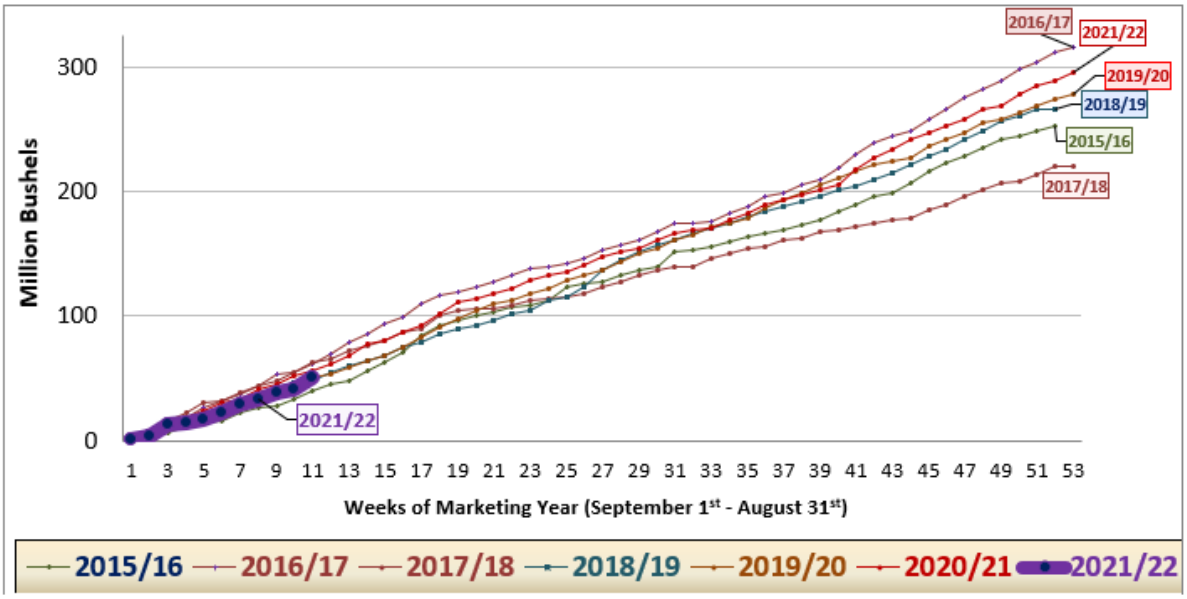
Export reports through August 12, 2021



U.S. Hard Red Winter Wheat Exports for MY 2015/16 thru "New Crop" MY 2021/22 as of USDA FAS Weekly Export reports through August 12, 2021



U.S. Hard Red Spring Wheat Exports for MY 2015/16 thru "New Crop" MY 2021/22 as of USDA FAS Weekly Export reports through August 12, 2021



U.S. Wheat Supply and Demand

August 12, 2021

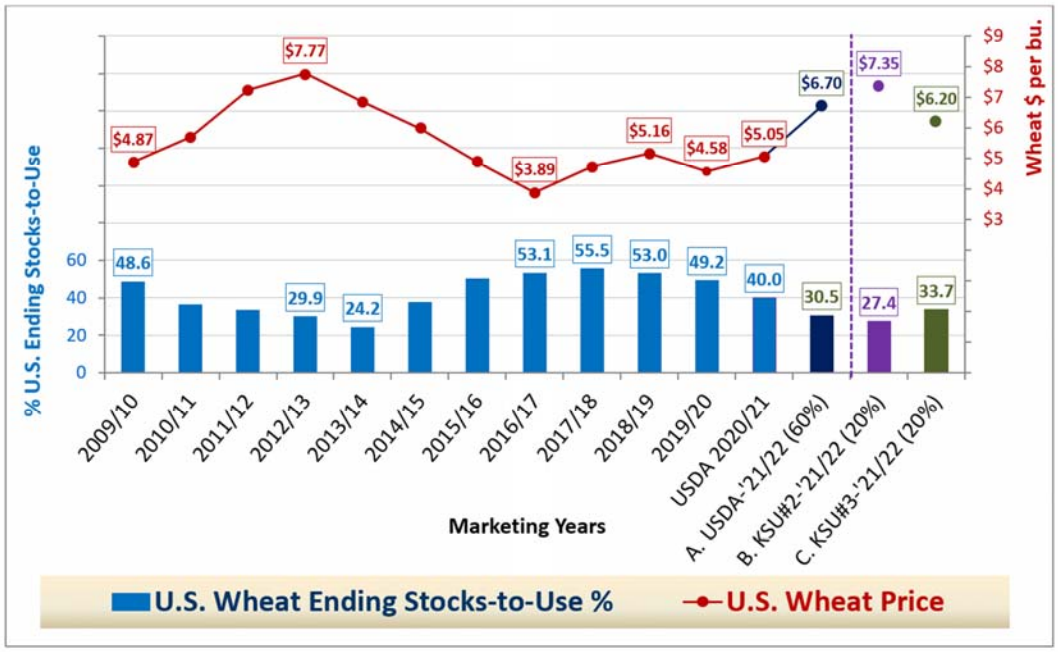
Item	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
Planted area (million acres)	44.3	46.7	--	2.4
Harvested area (million acres)	36.7	38.1	--	1.4
Yield (bushels per acre)	49.7	44.5	-1.3	-5.2
		Million bushels		
Beginning stocks	1,028	844	--	-184
Production	1,826	1,697	-49	-129
Imports	100	145	--	45
Total supply	2,954	2,686	-49	-269
Food use	959	962	-1	3
Seed	61	62	--	1
Feed and residual	99	160	-10	61
Domestic use	1,119	1,184	-11	65
Exports	992	875	--	-117
Total use	2,110	2,059	-11	-51
Ending stocks	844	627	-38	-217
		Percent		
Stocks to use ratio	40.0	30.4	-1.7	-9.5
		Dollars per bushel		
Average market price	5.05	6.70	0.10	1.65

U.S. Wheat Ending Stocks & Percent (%) Stocks-to-Use: MY 2006/07 thru "New Crop" MY 2021/22 as of the August 12, 2021 USDA Crop Production & WASDE Reports

U.S. Wheat Supply-Demand Balance Sheet: "Old Crop" MY 2020/21 – "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE report, with KSU scenarios

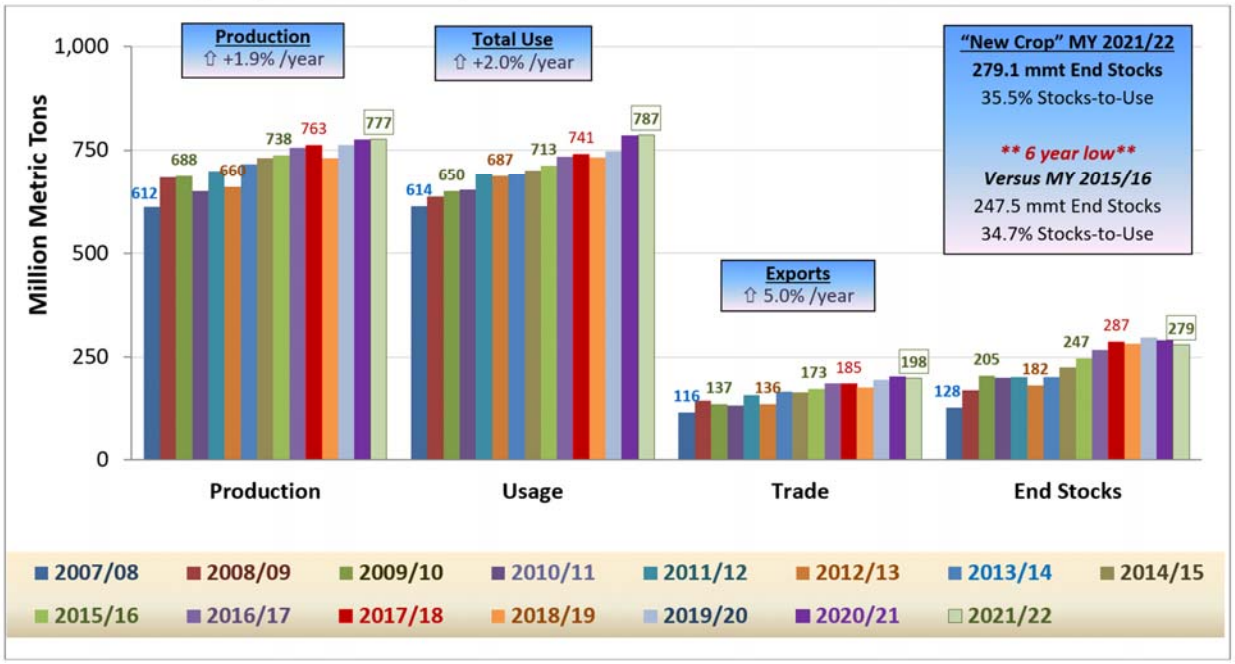
Item	USDA "Old Crop" MY 2020/21	A. USDA Scenario #1 "New" MY 2021/22 *6/30 Grains Stocks adj*	B. KSU Scenario #2 "New" MY 2021/22 *Higher Exports +50 mb*	C. KSU Scenario #3 "New" MY 2021/22 *Lower Exports -50 mb*
% Probability of Occurring KSU est.		*60% prob*	*20% prob.*	*20% prob.*
Planted Area (million acres)	44.349	46.743	46.743	46.743
Harvested Area (million acres)	36.746	38.102	38.102	38.102
% Harvested/Planted Area	82.86%	81.51%	81.51%	81.51%
Yield / harvested acre (bu/ac)	49.7	44.5	44.5	44.5
	Million Bushels			
Beginning Stocks	1,028	844	844	844
Production	1,826	1,697	**1,697**	**1,697**
Imports	105	145	145	145
Total Supply (million bushels)	2,954	2,686	**2,686**	**2,686**
Food Use	960	962	962	962
Seed Use	61	62	62	62
Exports	992	875	925	825
Feed & Residual Use	98	160	160	160
Total Use (million bushels)	2,110	2,059	**2,109**	**2,009**
Ending Stocks (million bushels)	844	627	577	677
% Ending Stocks-to-Use	40.00%	30.45%	**27.36%**	**33.70%**
Days of Supply (% S/U x 365 days)	146 days	111 days	100 days	123 days
U.S. Wheat Avg. Farm Price ($/bushel)	$5.05	$6.70	$7.35	$6.20

U.S. Wheat Ending Stocks vs U.S. Cash Prices: MY 2009/10 thru "New Crop" MY 2021/22 as of the August 12, 2021 USDA Crop Production & WASDE Reports, with KSU Projections



World Wheat Usage & Ending Stocks: MY 2007/08 - "New Crop" MY 2021/22

as of the August 12, 2021 USDA WASDE Report



World Wheat Production

August 12, 2021

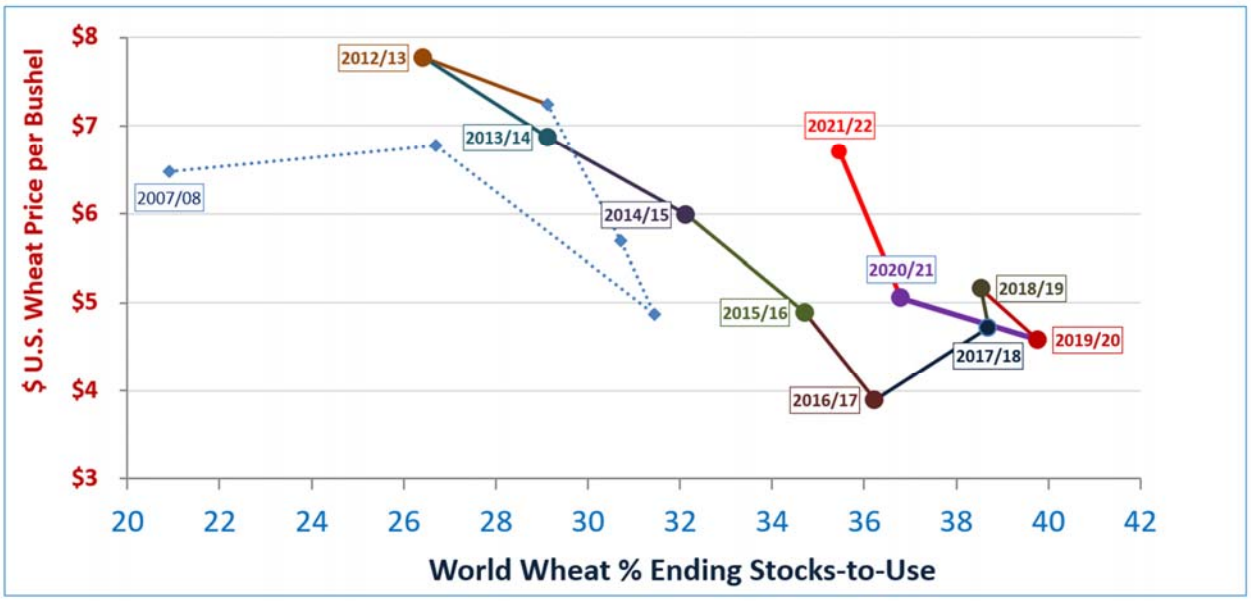
Country or Region	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million Tons		
World	775.8	776.9	-15.5	1.1
United States	49.7	46.2	-1.3	-3.5
Foreign	726.1	730.7	-14.1	4.6
Argentina	17.6	20.5	--	2.9
Canada	35.2	24.0	-7.5	-11.2
Australia	33.0	30.0	1.5	-3.0
European Union	125.9	138.6	0.4	12.7
Turkey	18.2	16.5	-0.5	-1.8
Russia	85.4	72.5	-12.5	-12.9
Ukraine	25.4	33.0	3.0	7.6
Kazakhstan	14.3	12.5	-0.5	-1.8
China	134.2	136.0	--	1.8
India	107.9	108.0	--	0.1
Northwest Africa	7.5	12.3	0.7	4.8

World Wheat Supply and Use

August 12, 2021

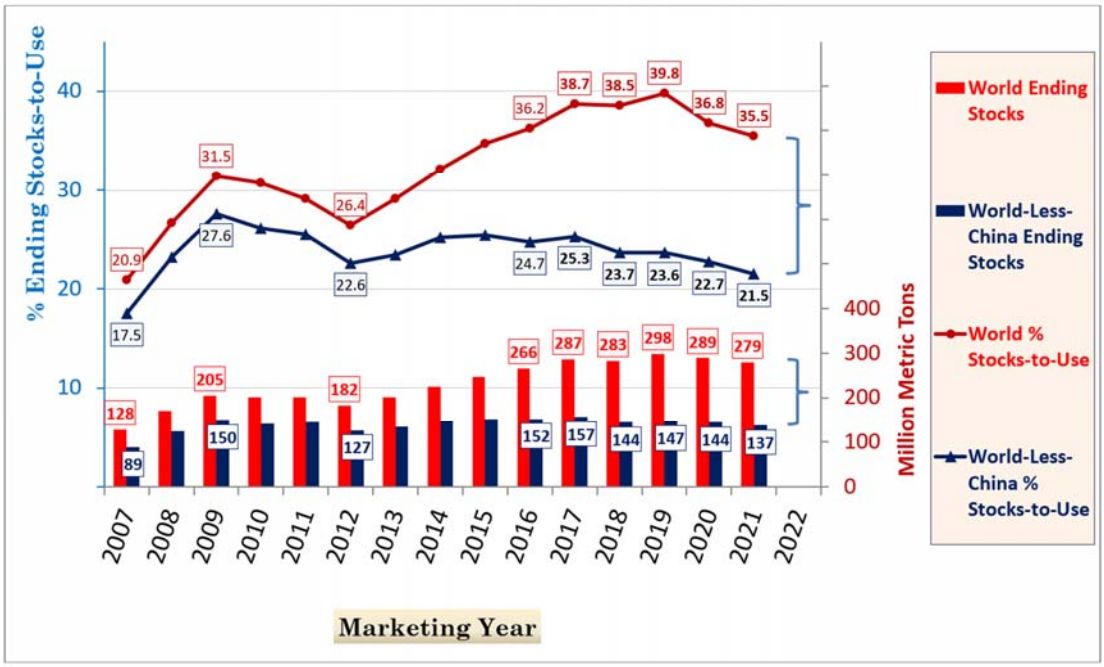
Item	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million Tons		
Beginning stocks	297.7	288.8	-1.4	-8.9
Production	775.8	776.9	-15.5	1.1
Total Supply	1,073.5	1,065.7	-16.8	-7.8
Feed use	158.2	157.4	-3.2	-0.8
Total use	784.7	786.7	-4.2	2.0
Trade	201.6	198.2	-5.8	-3.4
Ending Stocks	288.8	279.1	-12.6	-9.8

U.S. Wheat Price vs World % Stocks-to-Use: MY 2007/08 through "New Crop" MY 2020/21 as of the August 12, 2021 USDA WASDE Report



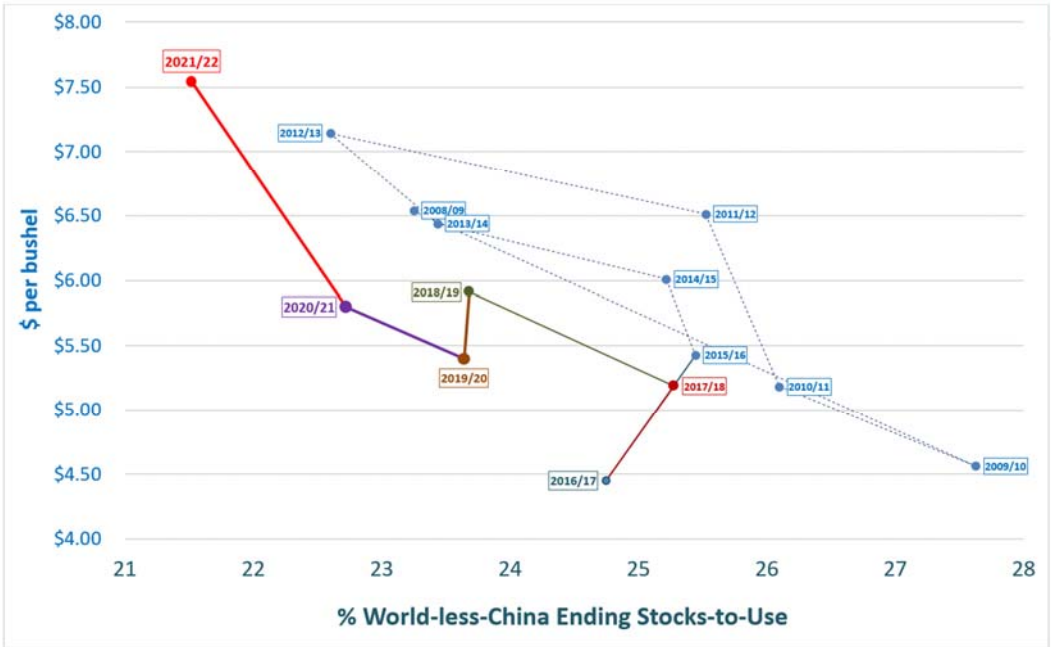
World vs *"World-Less-China"* Ending Stocks & % Stocks-to-Use: MY 2007/08 through "New Crop"

MY 2021/22 as of the August 12, 2021 USDA WASDE report



U.S. Wheat Price *(Adj. by Trade Weighted U.S. Dollar)* vs *"World-Less-China"* % Stocks-to-Use:

MY 2008/09 through "New Crop" MY 2020/21 as of the August 12, 2021 USDA WASDE report



Driving Factors in Wheat Markets^{2021}…

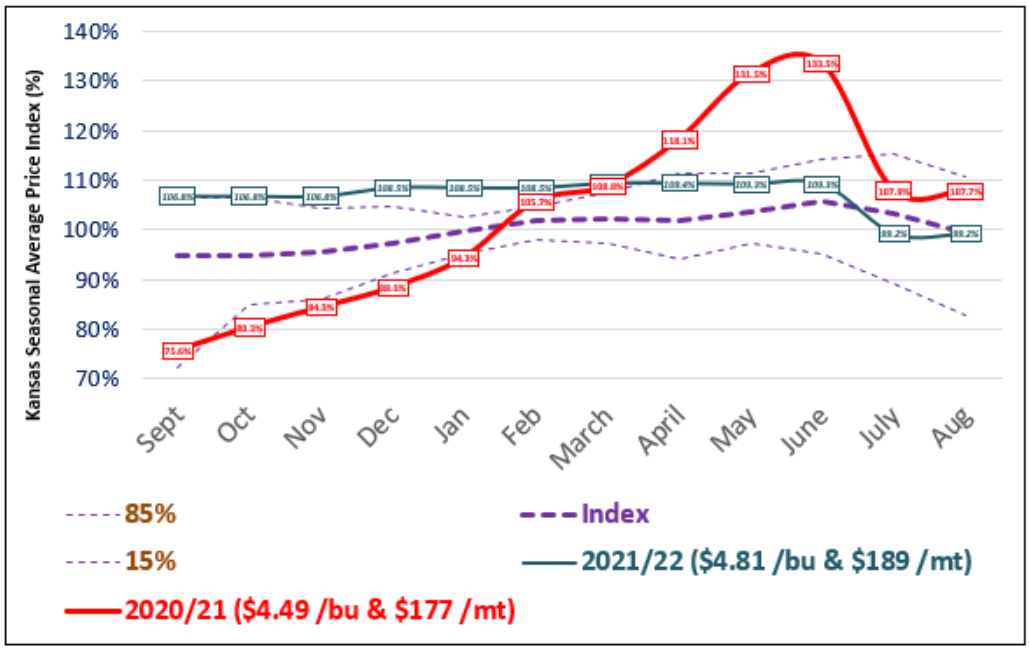
❑ Tightening Wheat % End Stocks-to-Use: U.S. & World…

- **Wheat** **"New Crop" MY 2021/22**
  - **U.S. Wheat Market**
    - ⇨ *Tightest* *"% Ending Stocks-to-Use"* since MY 2013/14 = 30.45% S/U
    - ⇨ *Highest* U.S. Average Wheat farm price since MY 2013/14 = $6.70 /bu
  - **World Wheat Market** – from a "*World-Less-China*" perspective
    - ⇨ *Tightest* *"% Ending Stocks-to-Use"* since MY 2007/08 = 21.5% S/U
    - ⇨ *Record high* U.S. Trade Weighted Dollar adjusted price = $7.54 /bu

Corn Markets

Monthly Commodity Futures Price Chart
Corn (Globex) (CBOT)
TFC Commodity Charts

Kansas Corn Seasonal Price Index: MY 1999/00 – MY 2019/20 plus "Old Crop" MY 2020/21 & "New Crop" MY 2021/22 as of Friday, August 13, 2021



U.S. Corn Supply and Demand

August 12, 2021

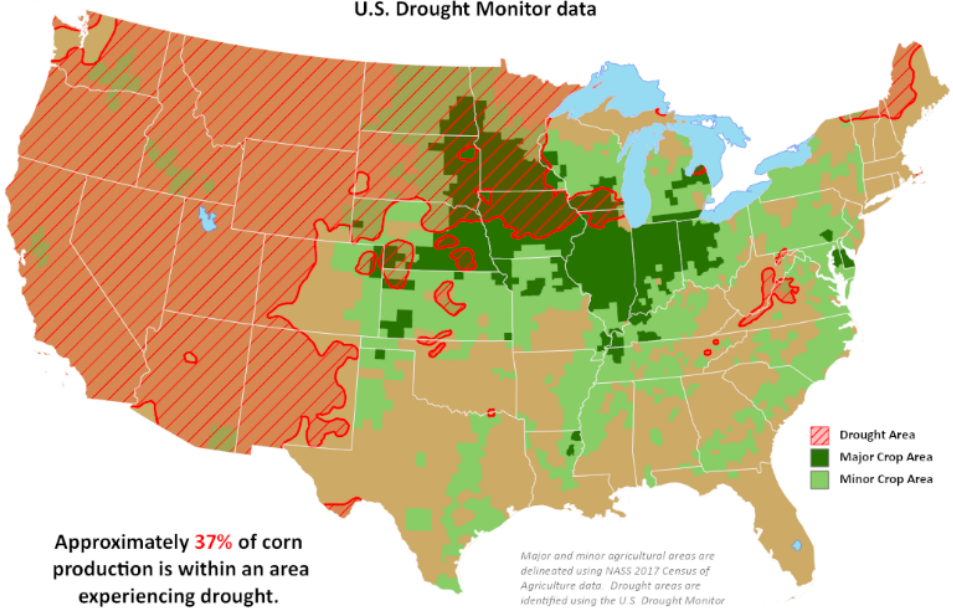
Item	2020/2021 Estimate	2020/2021 Change from July 12	2021/2022 Forecast	2021/2022 Change from July 12	2021/2022 Change from 2020/2021
Planted area (million acres)	90.8	--	92.7	--	1.9
Harvested area (million acres)	82.5	--	84.5	--	2.0
Yield (bushels per acre)	172.0	--	174.6	-4.9	2.6
			Million bushels		
Beginning stocks	1,919	--	1,117	35	-803
Production	14,182	--	14,750	-415	568
Imports	25	--	25	--	--
Total supply	16,127	--	15,892	-380	-235
Feed and residual	5,725	--	5,625	-100	-100
Food, seed, and industrial	6,510	40	6,625	10	115
Ethanol	5,075	25	5,200	--	125
Domestic use	12,235	40	12,250	-90	15
Exports	2,775	-75	2,400	-100	-375
Total use	15,010	-35	14,650	-190	-360
Ending stocks	1,117	35	1,242	-190	125
			Percent		
Stocks to use ratio	7.4	0.2	8.5	-1.2	1.0
			Dollars per bushel		
Average market price	4.40	--	5.75	0.15	1.35

USDA United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

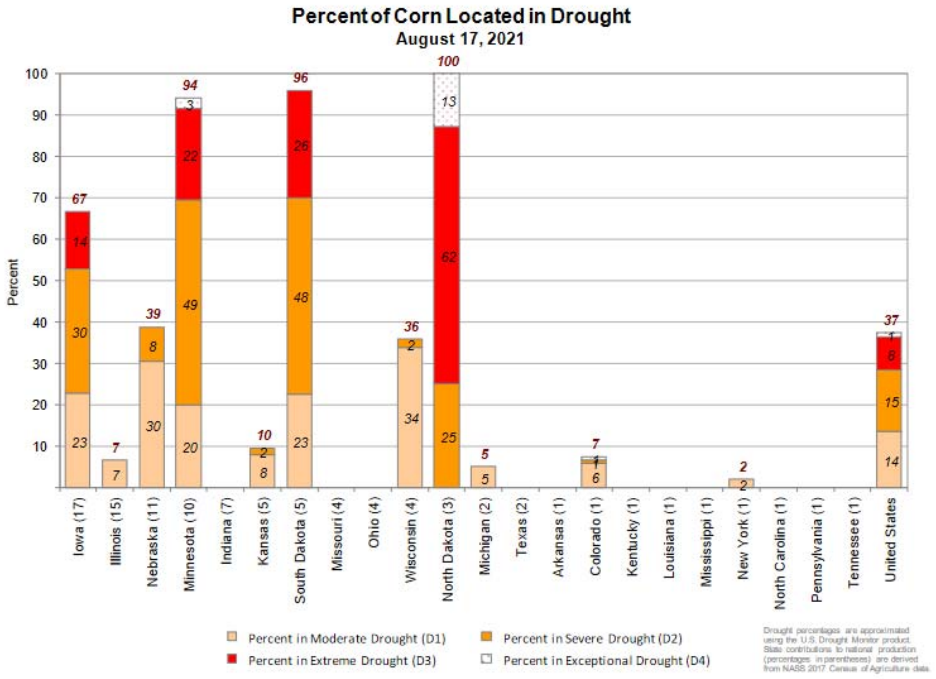
Corn Areas in Drought

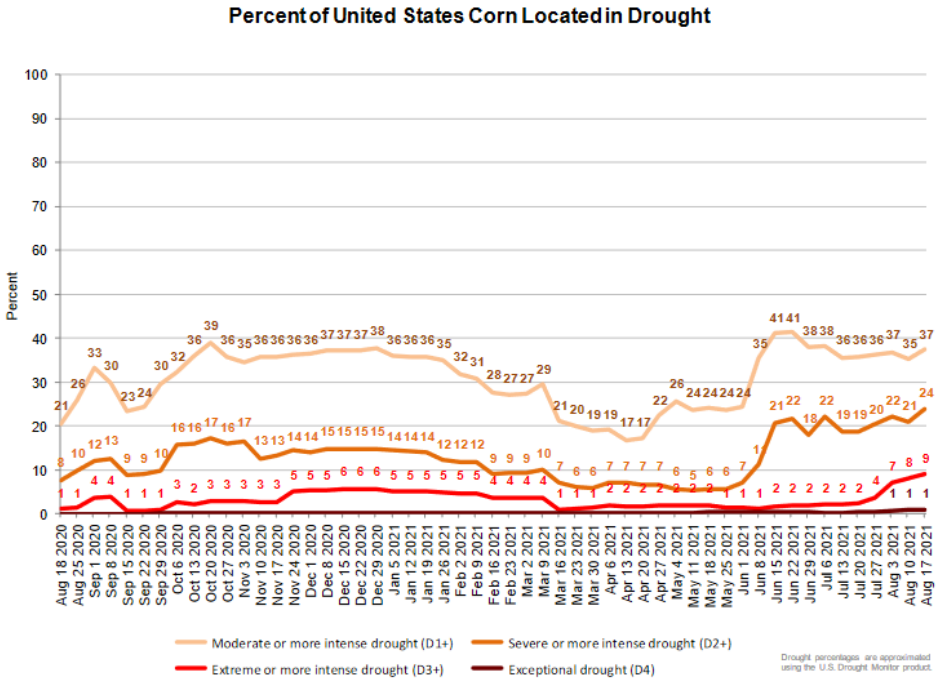
Reflects August 17, 2021
U.S. Drought Monitor data



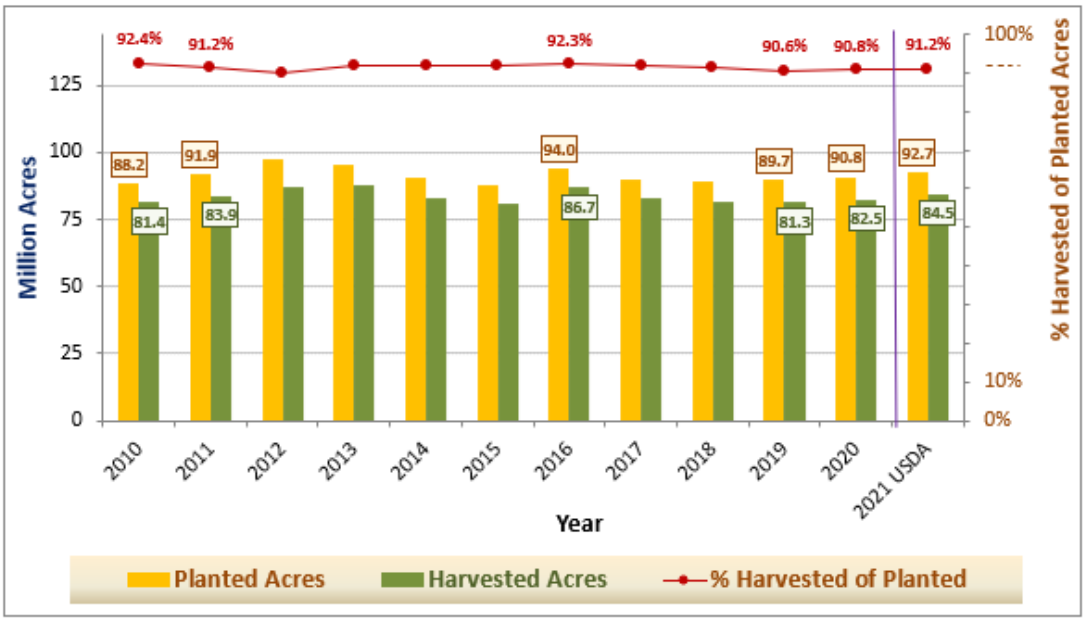
Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor

Approximately 37% of corn production is within an area experiencing drought.

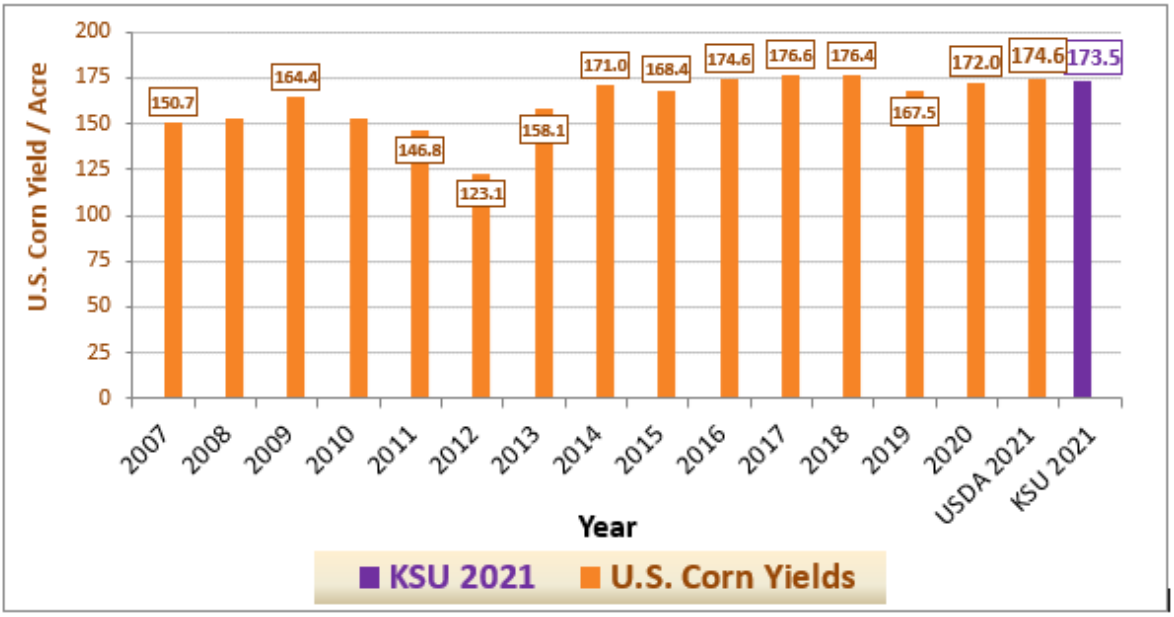

Percent of Corn Located in Drought
August 17, 2021
Percent
Iowa (17)
Illinois (15)
Nebraska (11)
Minnesota (10)
Indiana (7)
Kansas (5)
South Dakota (5)
Missouri (4)
Ohio (4)
Wisconsin (4)
North Dakota (3)
Michigan (2)
Texas (2)
Arkansas (1)
Colorado (1)
Kentucky (1)
Louisiana (1)
Mississippi (1)
New York (1)
North Carolina (1)
Pennsylvania (1)
Tennessee (1)
United States
Percent in Moderate Drought (D1)
Percent in Severe Drought (D2)
Percent in Extreme Drought (D3)
Percent in Exceptional Drought (D4)
Drought percentages are approximated using the U.S. Drought Monitor product. State contributions to national production (percentages in parentheses) are derived from NASS 2017 Census of Agriculture data.


Percent of United States Corn Located in Drought
Percent
Moderate or more intense drought (D1+)
Severe or more intense drought (D2+)
Extreme or more intense drought (D3+)
Exceptional drought (D4)
Drought percentages are approximated using the U.S. Drought Monitor product.

U.S. Corn Acreage for Years 2010 Through 2021 as of the August 12, 2021 WASDE Report

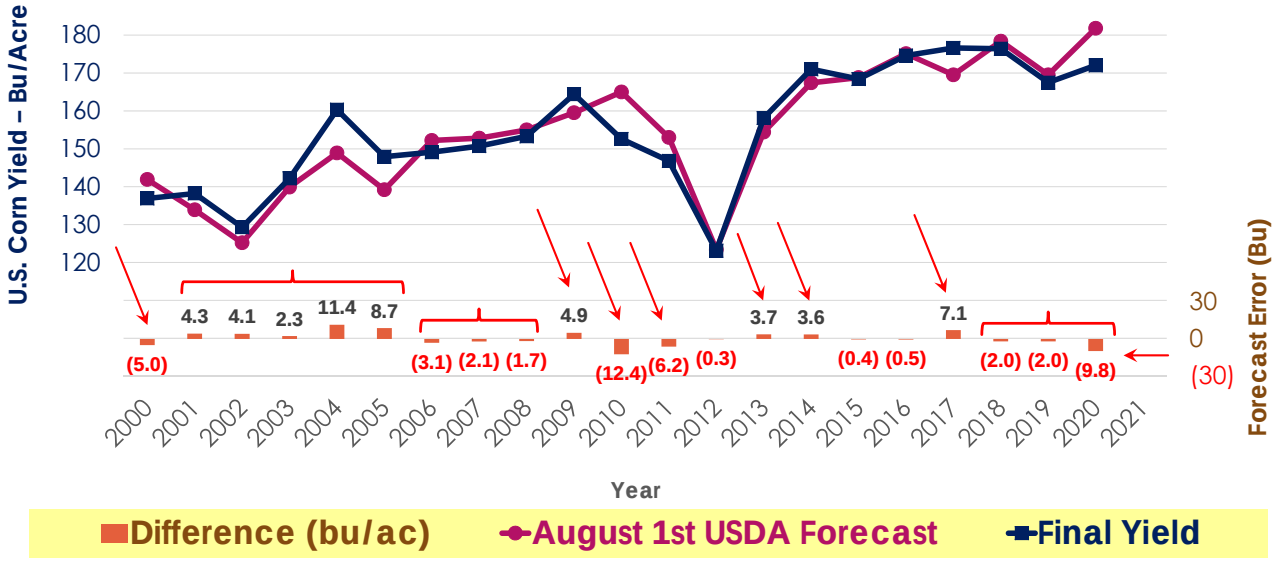


U.S. Corn Yield Trend for 2005-2021 as of the 8/12/2021 USDA Report + KSU ests.

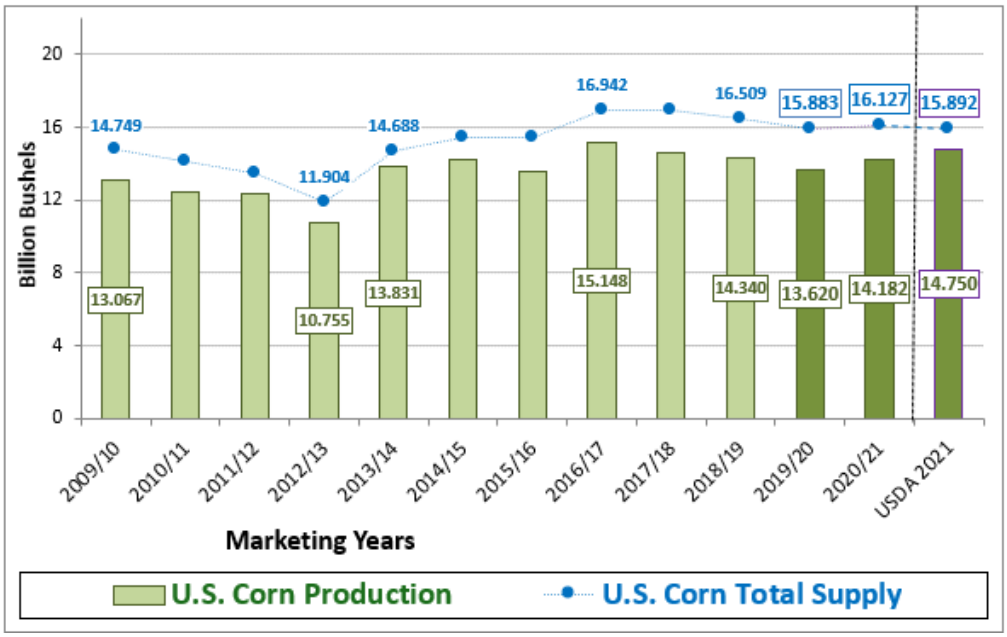


U.S. Corn Yields: 2000-2021

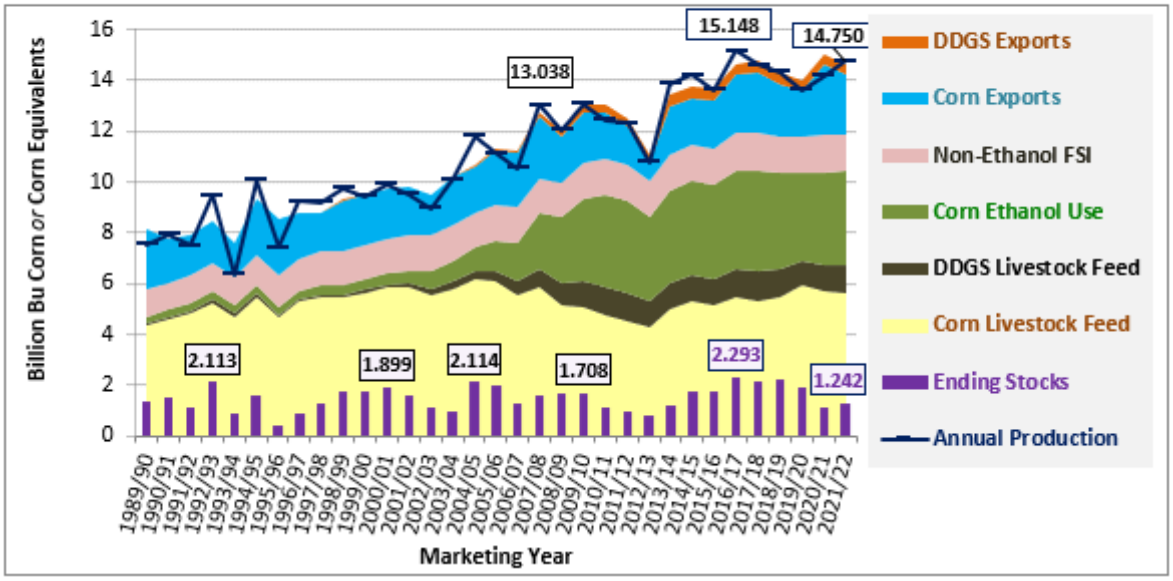
Final Accuracy of August 1st USDA Forecasts



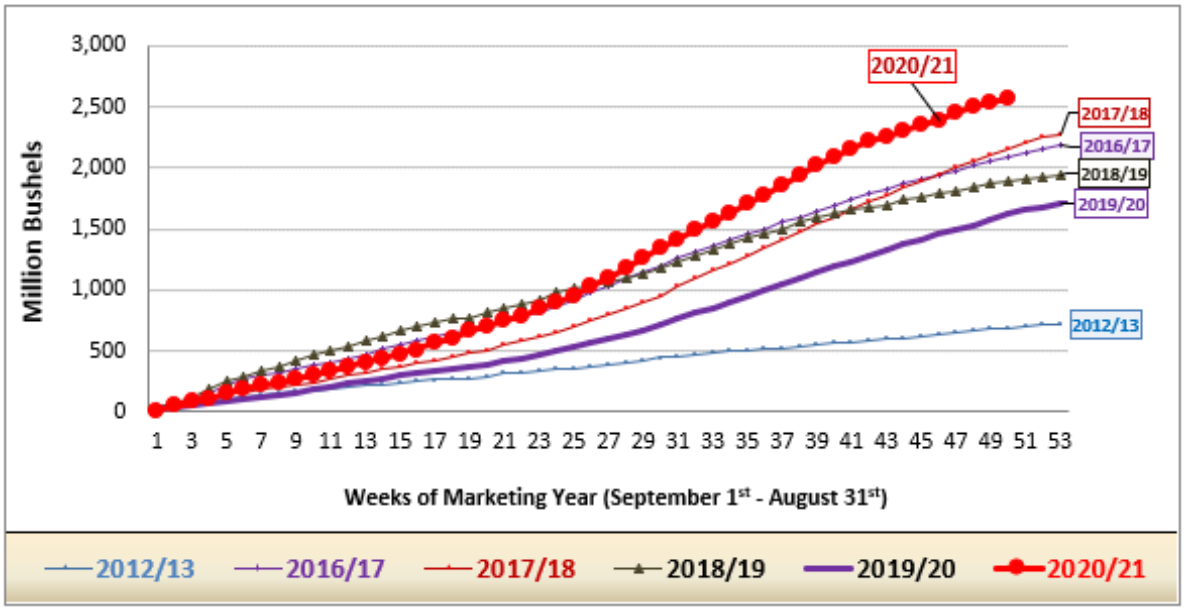
U.S. Corn Production & Total Supplies: MY 2009/10 - "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE & Crop Production Reports



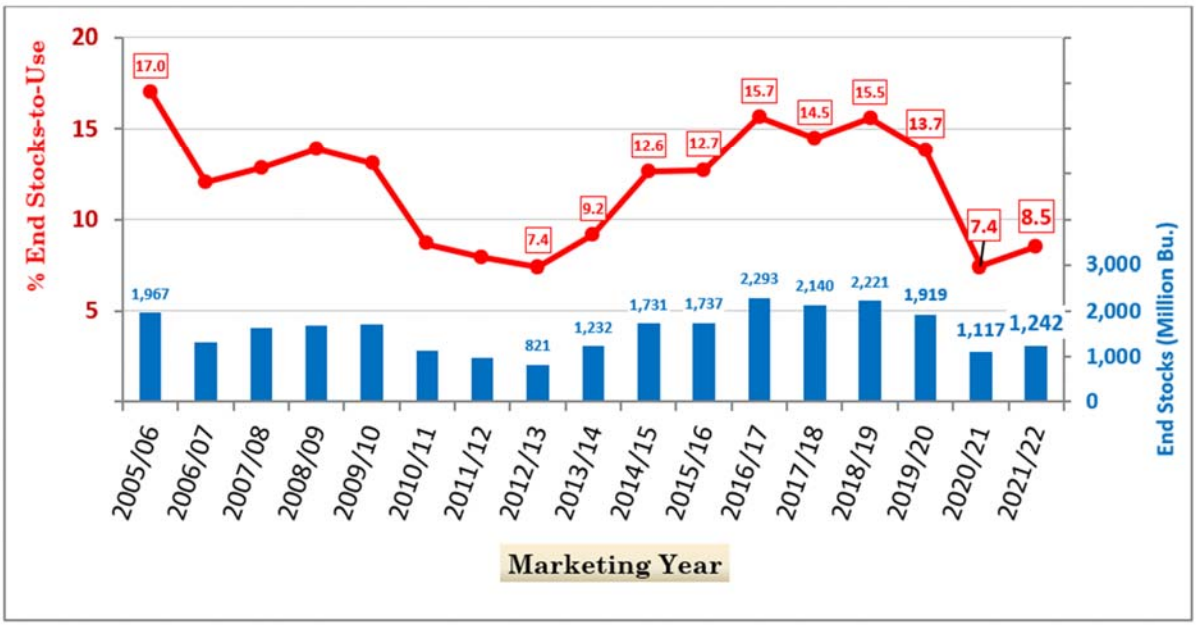
U.S. Corn Supply-Demand with DDGS Adjustments as of the August 12, 2021 USDA World Agricultural Supply and Demand Estimates (WASDE) report



U.S. Corn Exports for MY 2012/13 & 2016/17 - "Old" MY 2020/21 based on USDA FAS Weekly Export reports thru 8/12/2021 (EOMY on 8/31)



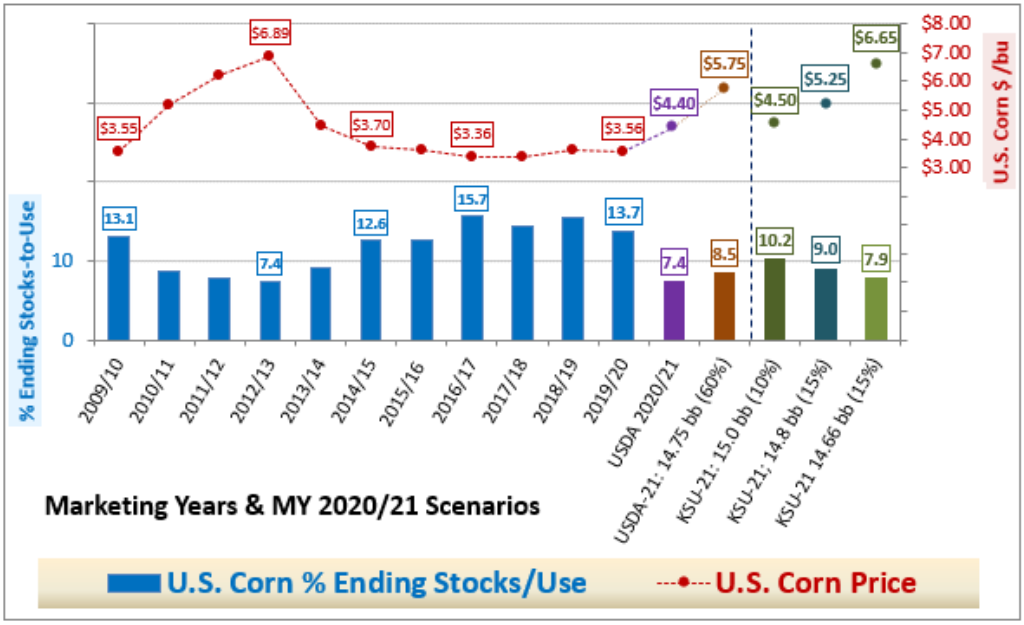
U.S. Corn Ending Stocks & % Ending Stocks-to-Use: MY 2005/06 through "New Crop" MY 2020/21 as of the August 12, 2021 WASDE Report



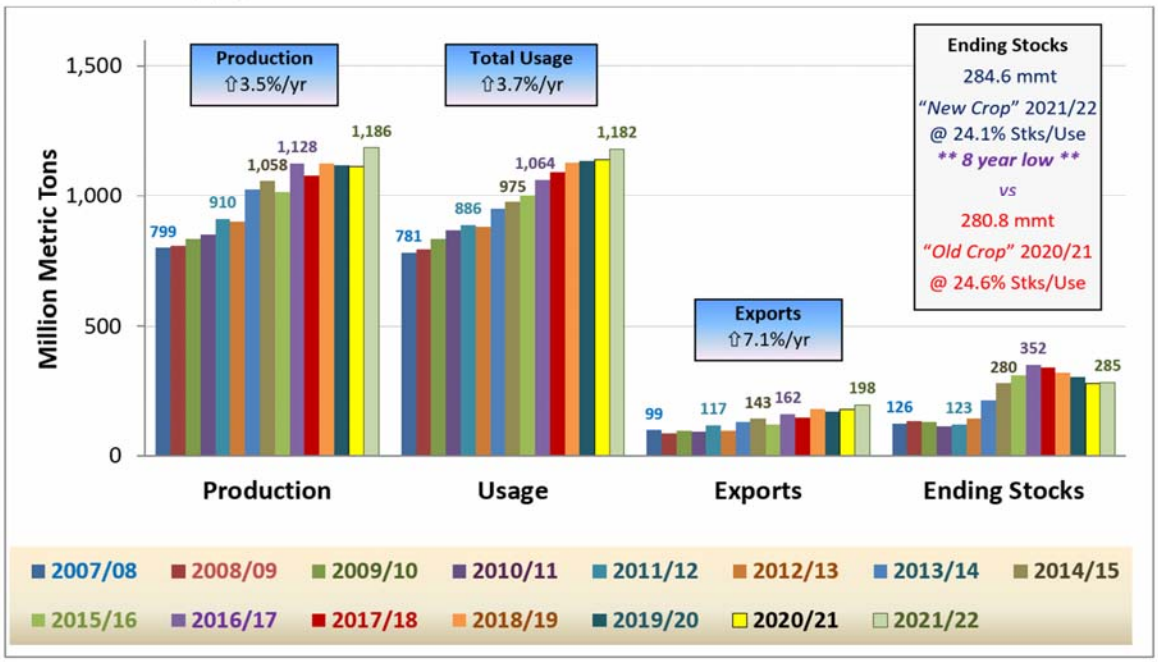
U.S. Corn Supply-Demand Balance Sheet: Projected "Current Crop" MY 2020/21 & "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE report, with Alternative KSU "New Crop" 2021/22 Marketing Year Scenarios

Item	A. USDA MY 2020/21 7/12/2021 WASDE	B. USDA MY 2021/22 8/12/2021 WASDE	C. USDA KSU Adjusted MY 2021/22 8/12/2021 WASDE 177.5 bu/ac Yield	D. USDA KSU Adjusted MY 2021/22 8/12/2021 175.5 bu/ac Yield	E. USDA KSU Adjusted MY 2021/22 8/12/2021 173.5 bu/ac Yield
% Probability of Occurring (KSU)		*60% KSUest*	*10% KSUest*	*15% KSUest*	*15% KSUest*
Planted Area (million acres)	**90.819**	**92.692**	**92.692**	**92.692**	**92.692**
Harvested Area (million acres)	82.527	84.495	84.495	84.495	84.495
% Harvested/Planted Area	90.9%	91.6%	91.2%	91.2%	91.2%
Yield / harvested acre (bu/ac)	172.0	174.6	177.5	175.5	173.5
	Million Bushels				
Beginning Stocks (million bushels)	**1,919**	**1,117**	**1,117**	**1,117**	**1,117**
Production (million bu.)	**14,182**	**14,750**	**14,998**	**14,829**	**14,660**
Imports (million bu.)	25.0	25.0	25.0	25.0	25.0
Total Supply (million bu.)	**16,127**	**15,892**	**16,140**	**15,971**	**15,802**
Ethanol for fuel Use (million bu.)	5,075	5,200	5,200	5,200	5,200
Food & Industrial Use (mln bu.)	1,405	1,395	1,395	1,395	1,395
Seed Use (million bu.)	30.0	30.6	30.6	30.6	30.6
Exports (million bu.)	2,775	2,400	2,400	2,400	2,400
Feed & Residual Use (million bu.)	5,725	5,625	5,625	5,625	5,625
Total Use (million bu.)	**15,010**	**14,650**	**14,650**	**14,650**	**14,650**
Ending Stocks (million bu.)	1,117	1,242	1,490	1,321	1,152
% Ending Stocks-to-Use	**7.44%**	**8.48%**	**10.17%**	**9.02%**	**7.86%**
Days of Supply (% S/U x 365 days)	*27.2 days*	*31.0 days*	*37.1 days*	*32.9 days*	*28.7 days*
U.S. Corn Average Farm Price ($/bushel)	**$4.40** /bu vs $4.49 KSU Futures	**$5.75** /bu vs $4.99 KSU Futures	**$4.50** /bu KSU Scenario C Forecast	**$5.25** /bu Adjusted from the KSU Scenario C forecast 7/14/2021	**$6.65** /bu Adjusted from the KSU Scenario C forecast 7/14/2021

U.S. Corn % Ending Stocks vs U.S. Corn Prices: MY 2009/10 – "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE report + KSU "new crop" MY 2021/22 ests.



World Corn Supply-Demand: MY 2007/08 -"New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE report



World Corn Production

August 12, 2021

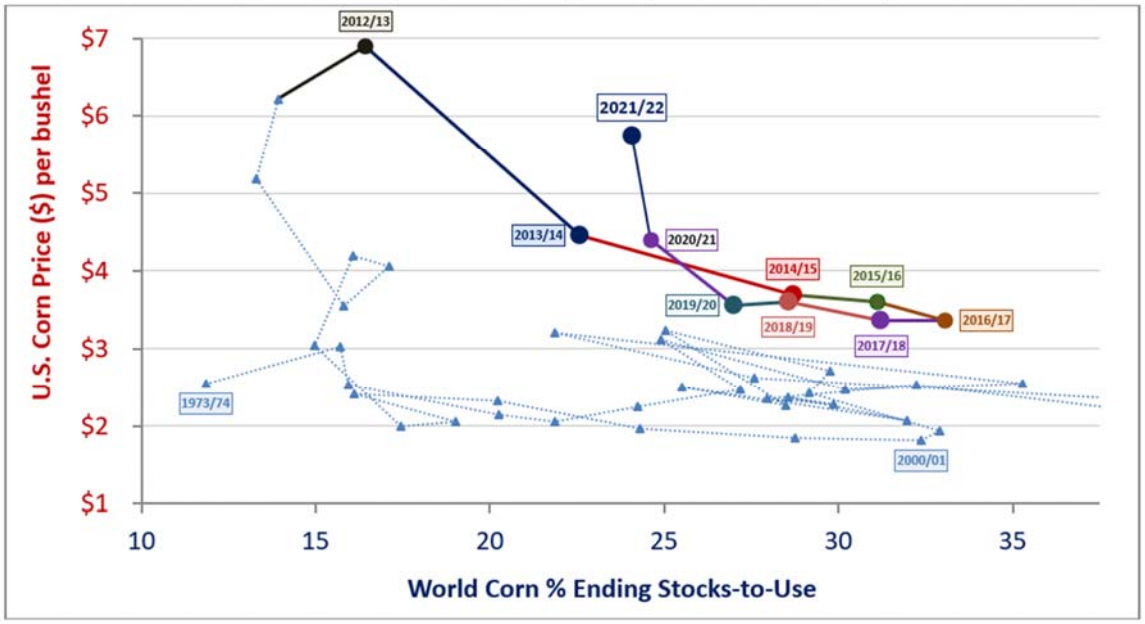
Country or Region	2020/2021 Estimate	2020/2021 Change from July 12	2021/2022 Forecast	2021/2022 Change from July 12	2021/2022 Change from 2020/2021
		Million Tons			
World	1,115.4	-5.2	1,186.1	-8.7	70.7
United States	360.3	--	374.7	-10.5	14.4
Foreign	755.2	-5.2	811.4	1.9	56.3
Argentina	48.5	--	51.0	--	2.5
Brazil	87.0	-6.0	118.0	--	31.0
Mexico	27.0	--	28.0	--	1.0
Canada	13.6	--	13.6	0.3	**
European Union	64.5	0.5	65.5	-1.2	1.0
Serbia	8.0	--	6.5	-0.8	-1.5
FSU-12	49.4	--	61.5	3.0	12.1
Ukraine	30.3	--	39.0	1.5	8.7
Russia	13.9	--	16.5	1.1	2.6
South Africa	17.2	0.2	17.0	--	-0.2
China	260.7	--	268.0	--	7.3
India	30.3	--	30.0	0.5	-0.3

World Corn Supply and Use

August 12, 2021

Item	2020/2021 Estimate	2020/2021 Change from July 12	2021/2022 Forecast	2021/2022 Change from July 12	2021/2022 Change from 2020/2021
		Million Tons			
Beginning stocks	306.3	0.8	280.8	0.9	-25.5
Production	1,115.4	-5.2	1,186.1	-8.7	70.7
Total Supply	1,421.7	-4.4	1,466.9	-7.8	45.2
Feed use	727.7	0.4	743.9	-3.7	16.2
Total use	1,140.9	-5.3	1,182.2	-1.2	41.3
Trade	178.5	-4.6	197.8	-1.0	19.4
Ending Stocks	280.8	0.9	284.6	-6.5	3.9

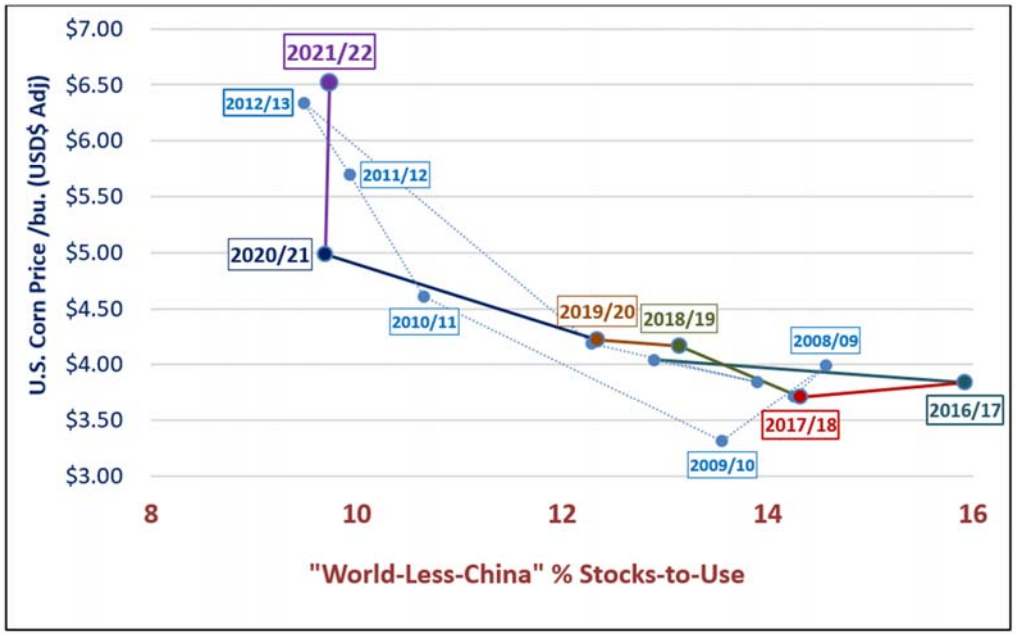
U.S. Corn Price vs % World Corn Stocks-to-Use: MY 1973/74 through "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE report



World vs "*World-Less-China*" % Corn Stocks-to-Use: MY 2007/08 through "New Crop" MY 2021/22, as of the August 12, 2021 USDA WASDE report.

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 August 12, 2021 USDA WASDE report.

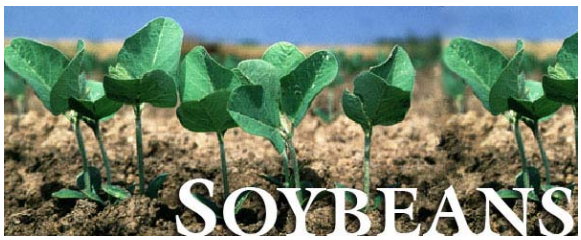


Driving Factors in Corn Markets2021…

❑ Tightening Corn % End Stocks-to-Use: U.S. & World…

- **Corn** **"New Crop" MY 2021/22**
  - **U.S. Corn Market**
    - ⇨ *2nd Tightest* *"% Ending Stocks-to-Use"* since MY 2012/13 = 8.65% S/U
    - ⇨ *Highest* U.S. Average Wheat farm price since MY 2012/13 = $5.75 /bu
  - **World Corn Market** – from a "*World-Less-China*" perspective
    - ⇨ *Tightest tied* *"% Ending Stocks-to-Use"* since MY 2012/13 = 9.7% S/U
    - ⇨ *Record high* U.S. Trade Weighted Dollar adjusted price = $6.51 /bu

Soybean Markets



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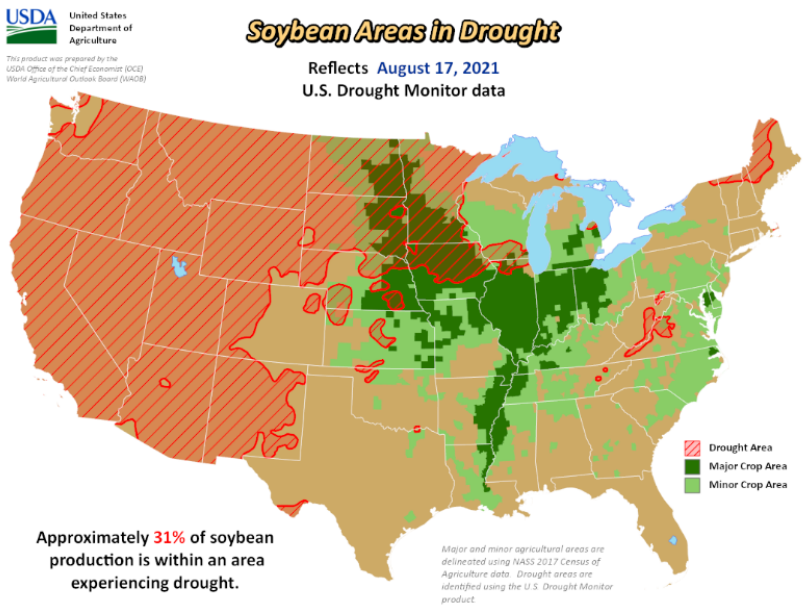
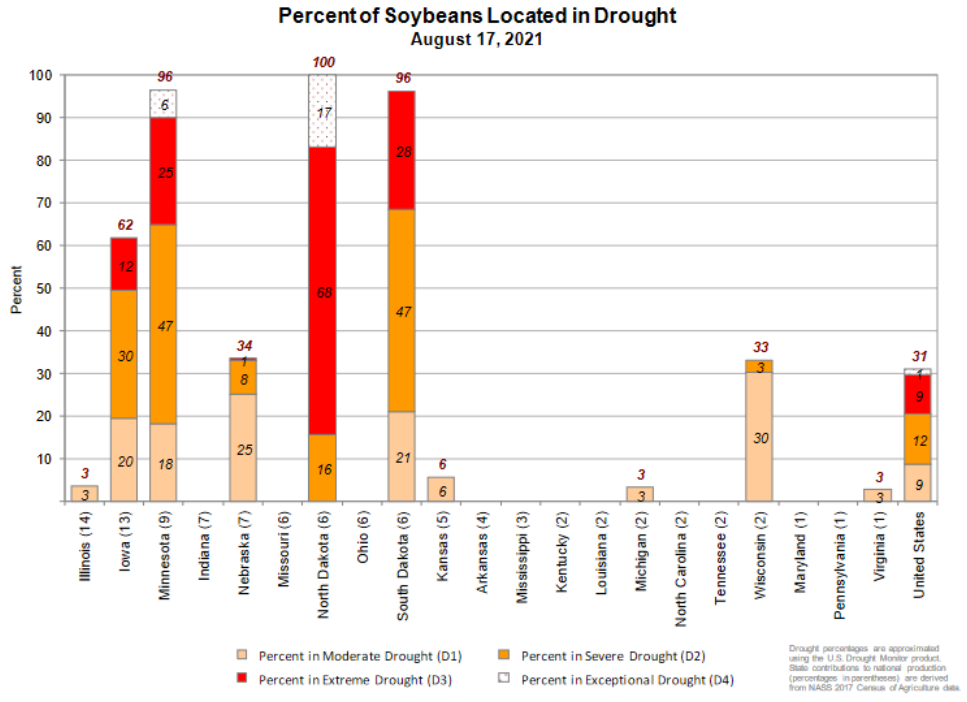
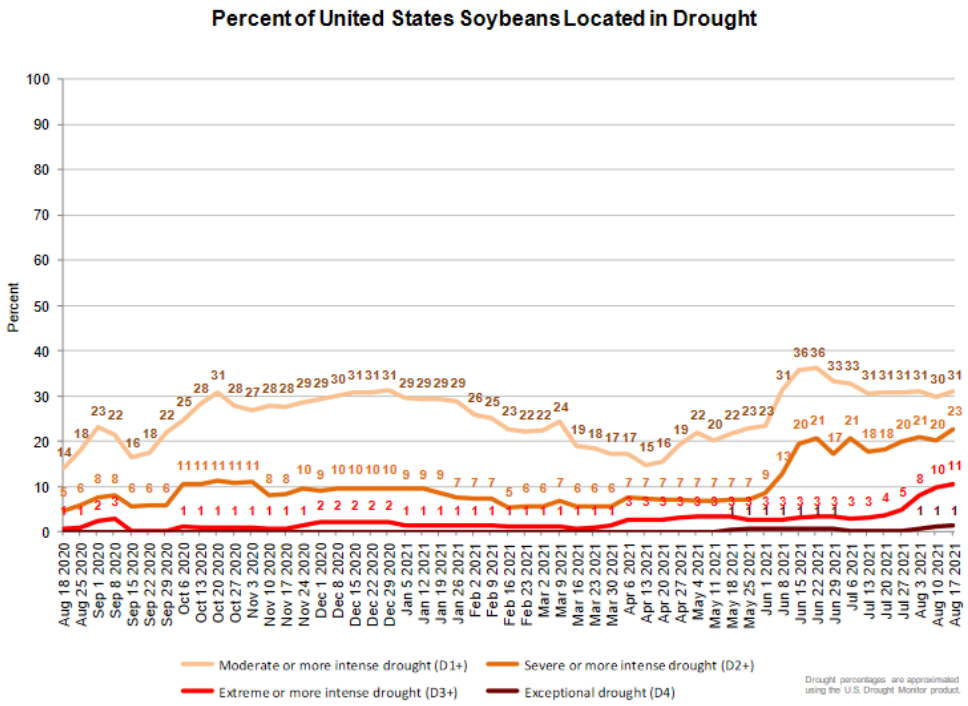
U.S. Soybeans Supply and Demand

August 12, 2021

Item	2020/2021 Estimate	2020/2021 Change from July 12	2021/2022 Forecast	2021/2022 Change from July 12	Change from 2020/2021
Planted area (million acres)	83.1	--	87.6	--	4.5
Harvested area (million acres)	82.3	--	86.7	--	4.4
Yield (bushels per acre)	50.2	--	50.0	-0.8	-0.2
			Million bushels		
Beginning stocks	525	--	160	25	-365
Production	4,135	--	4,339	-66	203
Imports	20	--	35	--	15
Total supply	4,680	--	4,533	-41	-147
Crush	2,155	-15	2,205	-20	50
Seed and Residual	105	--	119	-1	13
Domestic use	2,260	-15	2,324	-21	63
Exports	2,260	-10	2,055	-20	-205
Total use	4,520	-25	4,379	-41	-142
Ending stocks	160	25	155	**	-5
			Percent		
Stocks to use ratio	3.5	0.6	3.5	**	0.0
			Dollars per bushel		
Average market price	10.90	-0.15	13.70	--	2.80

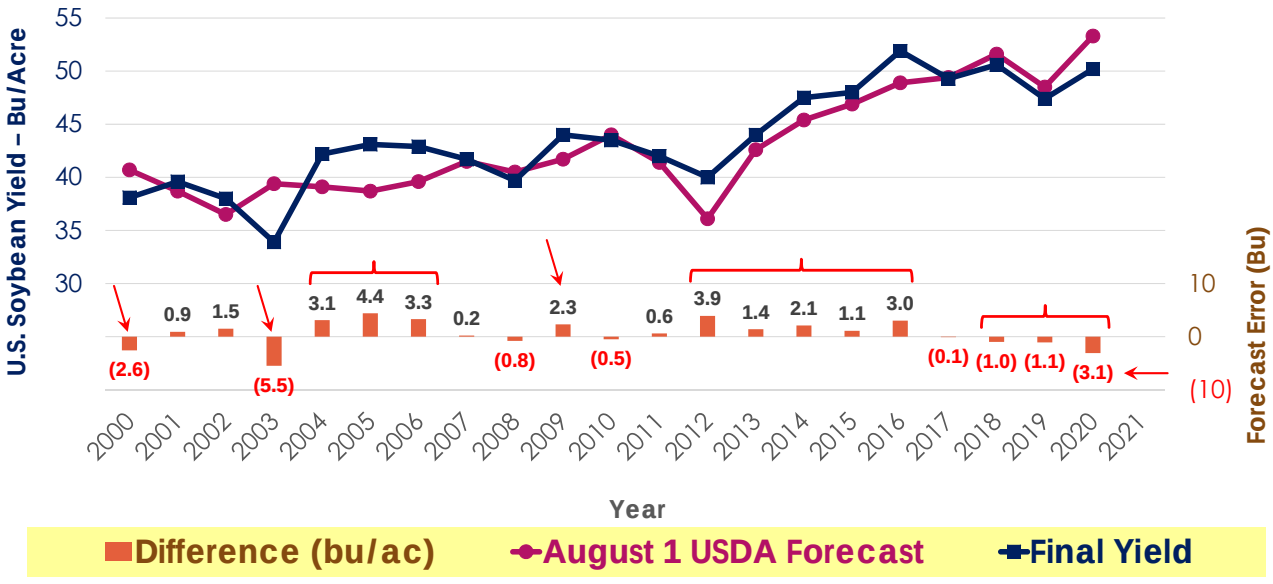

USDA United States Department of Agriculture
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)
Soybean Areas in Drought
Reflects August 17, 2021
U.S. Drought Monitor data
Drought Area
Major Crop Area
Minor Crop Area
Approximately 31% of soybean production is within an area experiencing drought.
Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.


Percent of Soybeans Located in Drought
August 17, 2021
Percent
Illinois (14)
Iowa (13)
Minnesota (9)
Indiana (7)
Nebraska (7)
Missouri (6)
North Dakota (6)
Ohio (6)
South Dakota (6)
Kansas (5)
Arkansas (4)
Mississippi (3)
Kentucky (2)
Louisiana (2)
Michigan (2)
North Carolina (2)
Tennessee (2)
Wisconsin (2)
Maryland (1)
Pennsylvania (1)
Virginia (1)
United States
Percent in Moderate Drought (D1)
Percent in Severe Drought (D2)
Percent in Extreme Drought (D3)
Percent in Exceptional Drought (D4)
Drought percentages are approximated using the U.S. Drought Monitor product. State contributions to national production (percentages in parentheses) are derived from NASS 2017 Census of Agriculture data.



U.S. Soybean Yields: 2000-2021

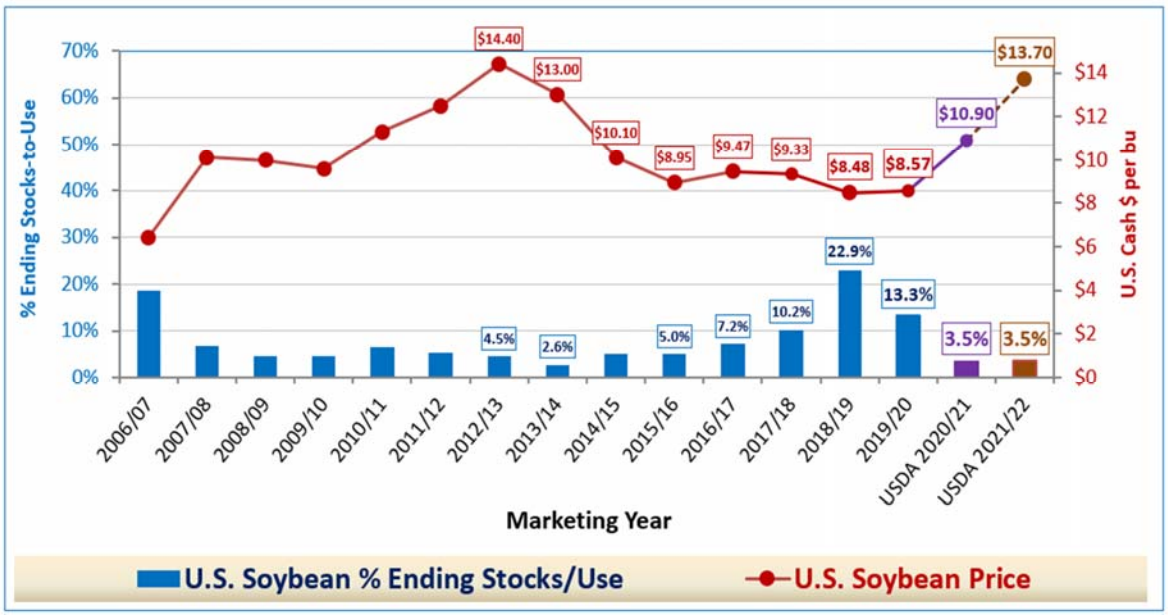
Final Accuracy of August 1st USDA Forecasts



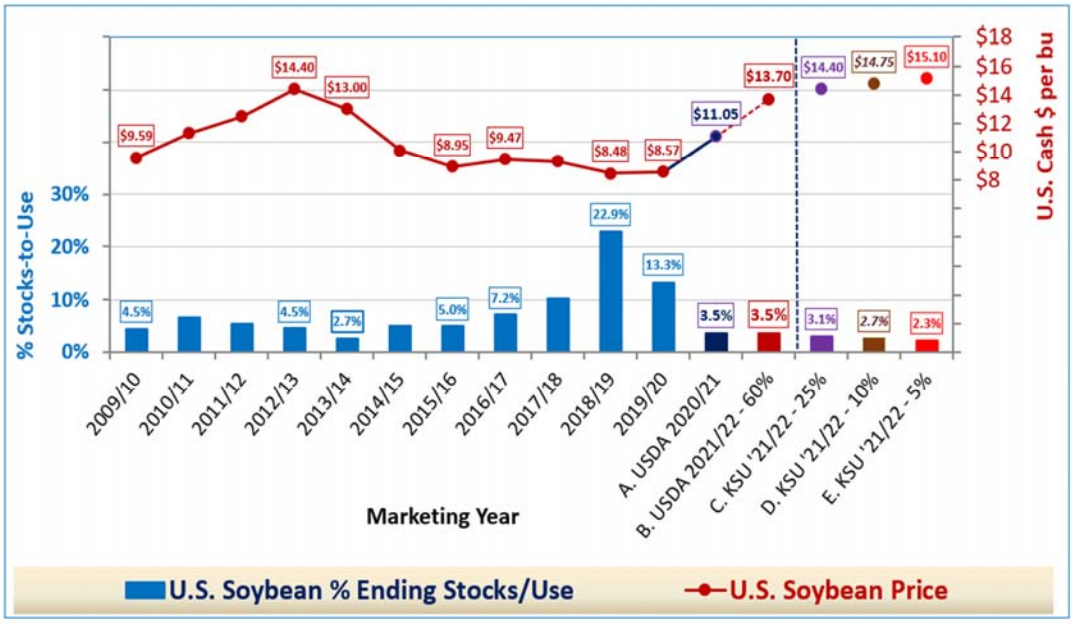
U.S. Soybean Oil Supply and Demand

Item	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million pounds		
Beginning stocks	1,853	1,793	--	-60
Production	25,215	25,710	-235	495
Imports	250	600	--	350
Total supply	27,318	28,103	-235	785
Domestic disappearance	23,825	25,200	-200	1,375
Biofuel	9,100	11,500	-500	2,400
Food, feed, other	14,725	13,700	300	-1,025
Exports	1,700	1,450	--	-250
Total use	25,525	26,650	-200	1,125
Ending stocks	1,793	1,453	-35	-340
		Cents per pound		
Average market price	57.50	65.00	--	7.50

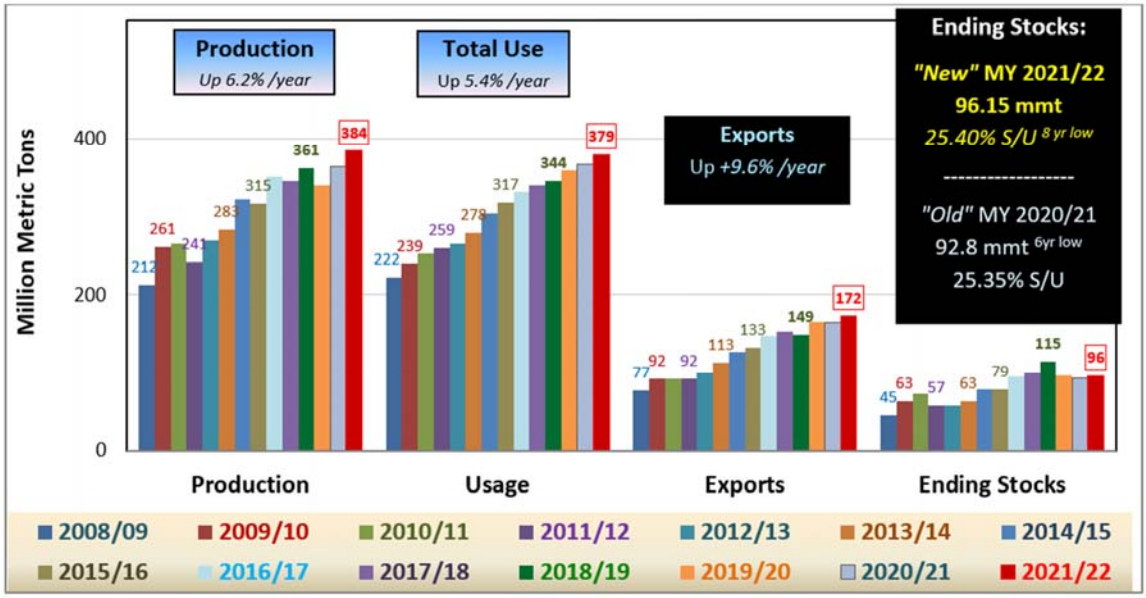
U.S. Soybean % Ending Stocks/Use vs U.S. Average Cash Prices: MY 2006/07 – "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE Report.



U.S. Soybean % Ending Stocks/Use vs U.S. Average Cash Prices: MY 2009/10 – "New Crop" MY 2021/22 as of the August 12, 2021 USDA WASDE Report & KSU forecast scenarios.



World Soybean Usage & Ending Stocks: MY 2008/09 through "New Crop" MY 2021/22 as of the August 12, 2021 WASDE Report



World Soybean Production

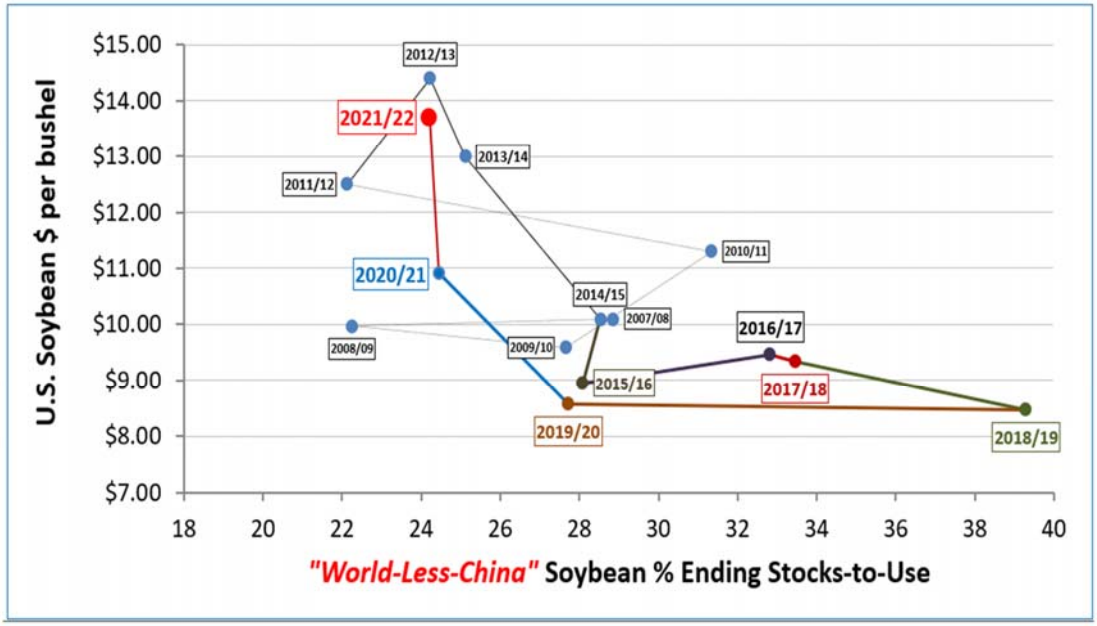
Country or Region	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million Tons		
World	363.3	383.6	-1.6	20.4
United States	112.5	118.1	-1.8	5.5
Foreign	250.7	265.5	0.2	14.8
Argentina	46.0	52.0	--	6.0
Brazil	137.0	144.0	--	7.0
Paraguay	9.9	10.5	--	0.6
Canada	6.4	6.1	--	-0.3
India	10.5	11.2	--	0.8
China	19.6	19.0	--	-0.6

World Soybean Supply and Use

Item	2020/2021 Estimate	2020/2021 Change from July 12	2021/2022 Forecast	2021/2022 Change from July 12	2021/2022 Change from 2020/2021
			Million Tons		
Beginning stocks	95.9	-0.7	92.8	1.3	-3.1
Production	363.3	-0.3	383.6	-1.6	20.4
Total Supply	459.1	-1.0	476.5	-0.3	17.3
Crush	319.1	-2.9	329.6	-2.5	10.5
Total use	366.1	-2.8	378.6	-2.5	12.5
Trade	164.9	-0.6	172.3	-0.5	7.4
Ending Stocks	92.8	1.3	96.1	1.7	3.3
Addendum					
Beginning stocks					
Argentina plus Brazil	46.7	-0.7	51.4	-0.4	4.7
Imports*					
China	97.0	-1.0	101.0	-1.0	4.0

World vs % "*World-Less-China*" Soybean Stocks-to-Use: MY 2007/08 through "New Crop" MY 2021/22, as of the August 12, 2021 USDA WASDE report.

U.S. Soybean Price vs *"World-Less-China"* % Stocks-to-Use: MY 2007/08 through "New Crop" MY 2021/22 as of the August 12, 2021 WASDE Report



Driving Factors in Soybean Markets2021…73

❑ Tight Soybean % End Stocks-to-Use: U.S. & World

- **Soybeans** **"New Crop" MY 2021/22**
  - **U.S. Soybean Market**
    - ⇨ *2nd Tightest tied "% Ending Stocks-to-Use"* since MY 2013/14 = 3.54% S/U
    - ⇨ *2nd Highest* U.S. Average Wheat farm price since MY 2012/13 = $13.70 /bu
  - **World Soybean Market** – from a "*World-Less-China*" perspective
    - ⇨ *3rd Tightest tied "% Ending Stocks-to-Use"* since MY 2011/12 = 24.2% S/U
    - ⇨ U.S. Trade Weighted Dollar adj. price = $15.52 /bu

Sorghum Markets

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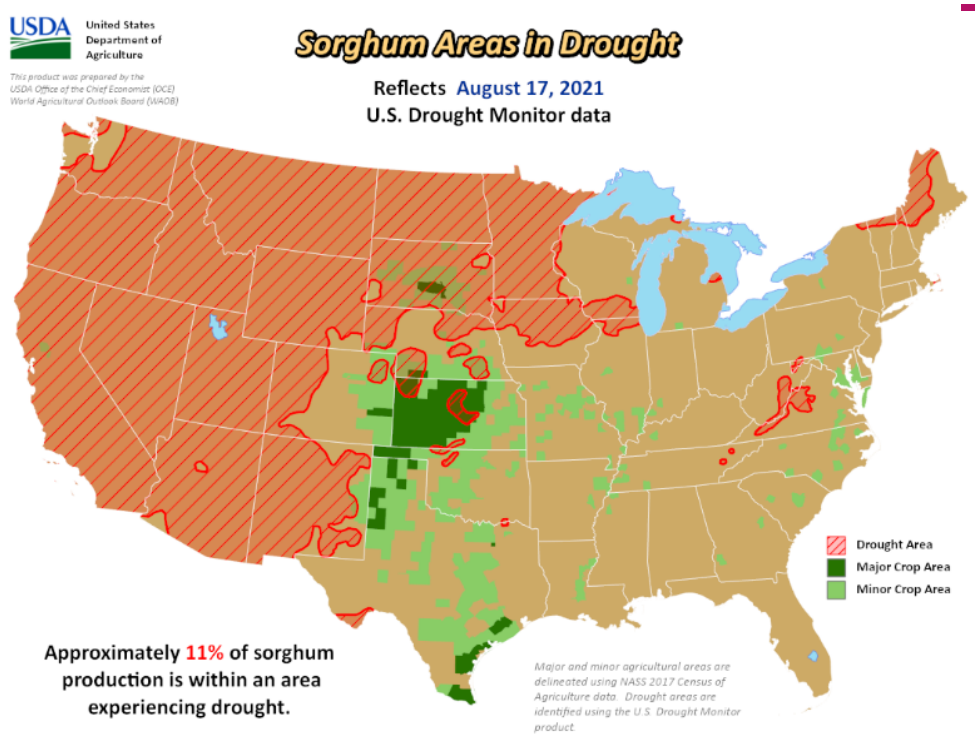
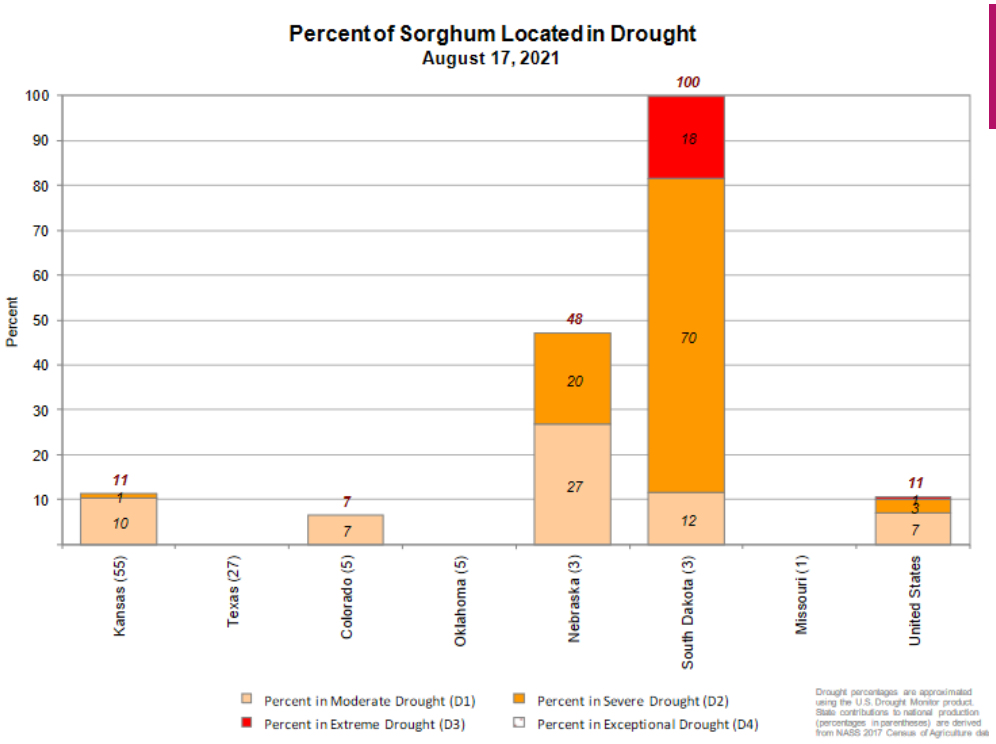
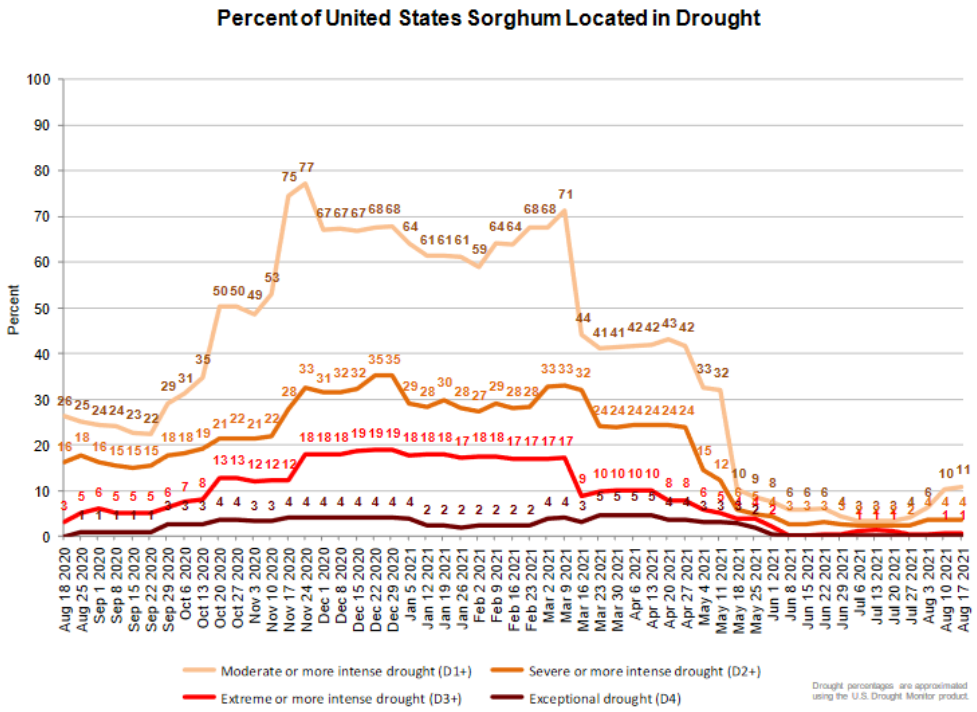

USDA United States Department of Agriculture
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)
Sorghum Areas in Drought
Reflects August 17, 2021
U.S. Drought Monitor data
Drought Area
Major Crop Area
Minor Crop Area
Approximately 11% of sorghum production is within an area experiencing drought.
Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.


Percent of Sorghum Located in Drought
August 17, 2021
Percent
100
90
80
70
60
50
40
30
20
10
11
1
10
7
7
48
20
27
100
18
70
12
11
1
3
7
Kansas (55)
Texas (27)
Colorado (5)
Oklahoma (5)
Nebraska (3)
South Dakota (3)
Missouri (1)
United States
Percent in Moderate Drought (D1)
Percent in Severe Drought (D2)
Percent in Extreme Drought (D3)
Percent in Exceptional Drought (D4)
Drought percentages are approximated using the U.S. Drought Monitor product. State contributions to national production (percentages in parentheses) are derived from NASS 2017 Census of Agriculture data



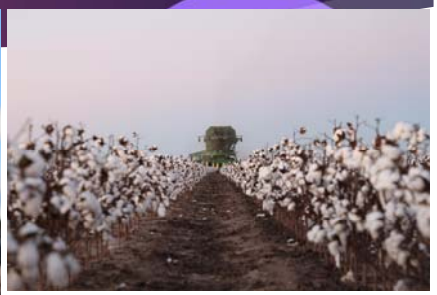
Driving Factors in Sorghum Markets[2021]…78

❑ Tight Sorghum % End S/U: U.S. & China demand (?)

- **Grain Sorghum** **"New Crop" MY 2021/22**
  - **U.S. Sorghum Market**
    - ⇨ *2nd Tightest* [tied] *"% Ending Stocks-to-Use"* since MY 2013/14 = 4.44% S/U
    - ⇨ *Highest* U.S. Average Sorghum farm price since MY 2012/13 = $6.15 /bu
  - **China sorghum imports[U.S.] started strong in MY 2021/22 – then slowed**
    - ⇨ *Still strong NC forward contract bids for Sorghum – especially in mid-Kansas*
    - ⇨ Signals anticipated resurgence of post-harvest China sorghum demand

9f449f9b-1b04-4265-8485-8eba77c62e4e-cotton_bales_on_trailer.webp

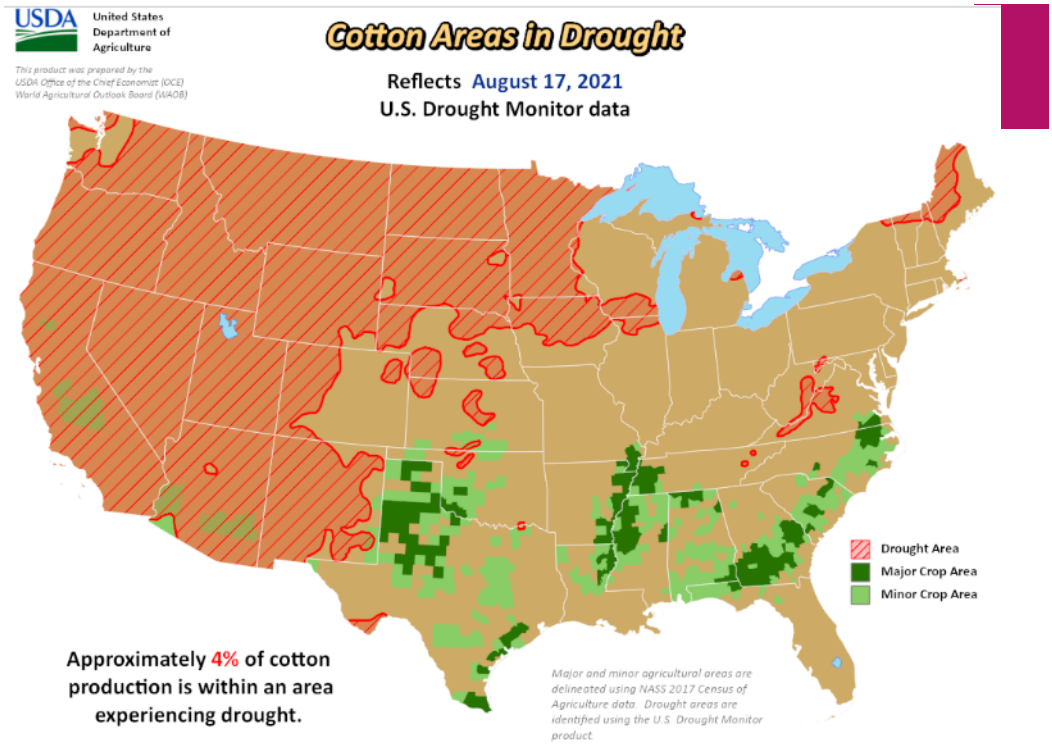
Cotton Markets



KANSAS STATE UNIVERSITY Department of Agricultural Economics

U.S. Cotton Supply and Demand

Item	2020/2021 estimate	2021/2022 forecast	Change from	Change from 2020/2021
Planted area (million acres)	12.09	11.72	--	-0.37
Harvested area (million acres)	8.28	10.36	-0.14	2.08
Yield (pounds per acre)	847	800	-14	-47
		Million bales		
Beginning stocks	7.25	3.20	0.05	-4.05
Production	14.61	17.26	-0.54	2.66
Imports	0.00	0.00	--	--
Total supply	21.86	20.47	-0.49	-1.39
Mill use	2.30	2.50	--	0.20
Exports	16.35	15.00	-0.20	-1.35
Total use	18.65	17.50	-0.20	-1.15
Unaccounted	0.01	-0.03	0.01	-0.04
Ending stocks	3.20	3.00	-0.30	-0.20
		Percent		
Stocks to use ratio	17.2	17.1	-1.5	0.0
		Cents per pound		
Average market price	66.50	80.00	5.00	13.50



World Cotton Production

Country or Region	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million bales		
World	112.4	118.8	-0.5	6.4
United States	14.6	17.3	-0.5	2.7
Foreign	97.8	101.6	**	3.8
Argentina	1.3	1.4	--	**
Brazil	10.8	12.5	-0.8	1.8
Turkey	2.9	3.4	--	0.5
Australia	2.8	4.4	0.5	1.6
China	29.5	26.8	--	-2.8
India	28.3	29.0	--	0.7
Pakistan	4.5	5.0	--	0.5
Uzbekistan	3.5	3.2	-0.2	-0.3
Turkmenistan	0.9	0.9	--	**
African Franc Zone	4.9	6.2	0.3	1.3

World Cotton Supply and Demand

Item	2020/2021 estimate	2021/2022 forecast	Change from July 12	Change from 2020/2021
		Million bales		
Beginning stocks	98.2	91.8	0.2	-6.4
Production	112.4	118.8	-0.5	6.4
Total Supply	210.6	210.6	-0.3	**
Consumption	119.0	123.3	0.2	4.3
Trade	48.0	46.3	0.3	-1.8
Ending Stocks	91.8	87.2	-0.5	-4.6
Addendum				
China ending stocks	39.1	34.8	0.3	-4.3

Driving Factors in Cotton Markets[2021]…

❑ Tightening Cotton % Stocks-to-Use – U.S. & World

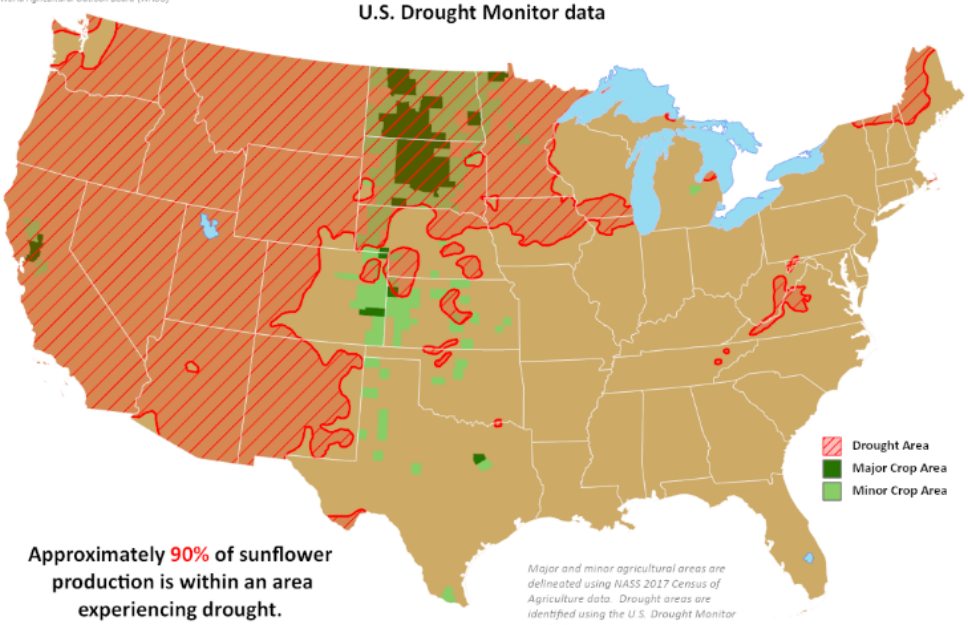
- **Cotton** **"New Crop" MY 2021/22**
  - **U.S. Cotton Market**
    - ⇨ *"% Ending Stocks-to-Use" down last 3 yrs* = 17.1%[MY 2021/22] vs 41.1%[MY 2019/20]
    - ⇨ U.S. Avg. Cotton farm price up last 3 years = $0.80 /lb[MY 2021/22] vs $0.60 /lb[MY2019/20]
  - **World Cotton Market** – from a "*World-Less-China*" perspective
    - ⇨ *Falling "% Ending Stocks-to-Use"* last 3 years ⇨ 63.6% [MY 2021/22] vs 87.8% [MY 2019/20]

USDA United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Sunflower Areas in Drought

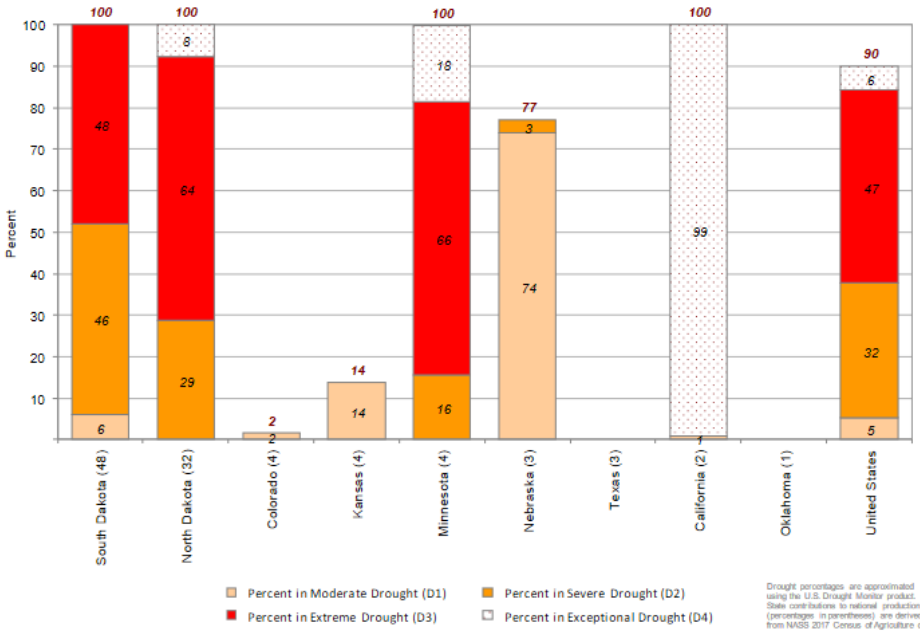
Reflects August 17, 2021
U.S. Drought Monitor data



Approximately 90% of sunflower production is within an area experiencing drought.

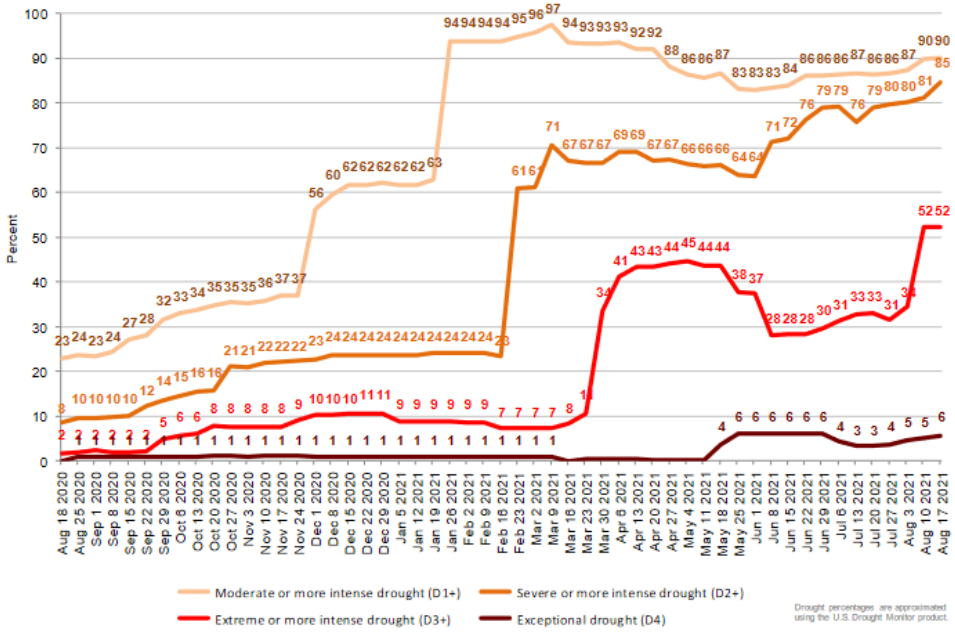
Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

Percent of Sunflowers Located in Drought
August 17, 2021



Drought percentages are approximated using the U.S. Drought Monitor product. State contributions to national production (percentages in parentheses) are derived from NASS 2017 Census of Agriculture data.

Percent of United States Sunflowers Located in Drought

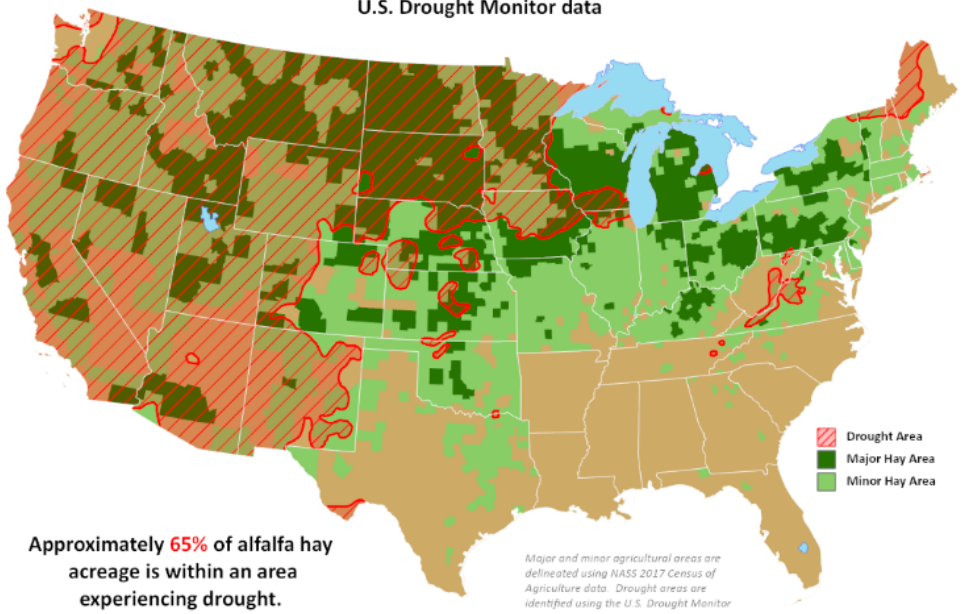


USDA United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

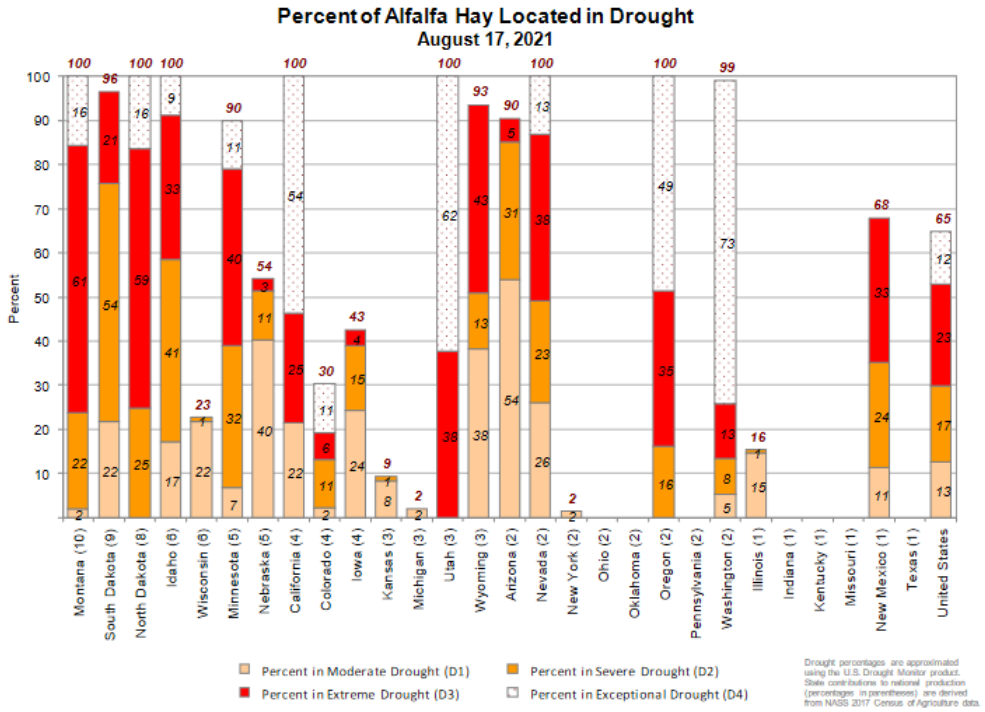
Alfalfa Hay Areas in Drought

Reflects August 17, 2021
U.S. Drought Monitor data



Approximately 65% of alfalfa hay acreage is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.



Anticipating: Likely Grain Market dynamics & directions during Fall 2021 through year 2022

What to anticipate: Fall 2021 – Year 2022

- **USDA Reports** ⇨ *Bringing grain market volatility*
  - Release dates: Sept. 12th, Oct. 12th, Nov. 12th, & January 2022
    - Risk of further 2021 crop production declines for U.S. corn, soybean & especially HRS wheat from the northern states – yields or abandoned acres (northwest vs south)
    - Would be *supportive-to-bullish* to grains – depending on degree of crop declines
- ***"Active"* Domestic & Foreign grain purchases @ harvest**
  - User's looking to secure available "new crop" supplies
  - ***"Inverted"* futures** & **strong basis** *likely* during **Sep-Nov2021 Quarter**

What to anticipate: Fall 2021 – Year 2022

- **South America Planting Influences** ⇨ *"Bid for Acres"*
  - Brazil & Argentina Corn & Soybean planting Calendar
    - **Brazil**
      - **Corn**: 1st crop ***Planting*** – October-December ⇨ ***Harvest***: February-June
      - **Soybeans**: ***Planting*** – October-December ⇨ ***Harvest***: March-June
      - **Corn**: 2nd crop ***Planting*** – January-February ⇨ ***Harvest***: March-June
    - **Argentina**
      - **Corn**: ***Planting*** – mid September-December ⇨ ***Harvest***: mid March-early June
      - **Soybeans**: 1st crop ***Planting*** – November-December ⇨ ***Harvest***: Late March-early May
      - **Soybeans**: 2nd crop ***Planting*** – December-early Jan. ⇨ ***Harvest***: mid April – mid June

What to anticipate: Fall 2021 – Year 2022

❑ Fall Seeding^{2021} of Hard Red Winter Wheat in Kansas

- **Support from strong "new crop" HRW Wheat futures** & Prospects for high 2022 crop Revenue Insurance Planning prices
  - o JULY^{2022} KC HRW Wheat futures @ $7.12 /bu $^{8/18/2021}$
- **Strong price competition for acres** from other Kansas crops in 2022 (Feedgrains, oilseeds)
- **Soil moisture prospects in Fall 2021** will likely be the key factor
  - o **Note: La Nina weather** pattern emergence could cause dry conditions in fall 2021

What to anticipate: Fall 2021 – Year 2022

❑ 2022 Spring Planting of Feedgrains & Oilseeds

- **With tight stocks across crops** – any threats to successfully planting 2022 U.S. corn or soybeans could cause ***STRONG*** market price volatility
  - o **NOV^{2022} Soybean futures** @ $12.57 /bu $^{8/18/2021}$
  - o **DEC^{2022} Corn futures** @ $5.12 /bu $^{8/18/2021}$
    - **Fall 2022 "New Crop" Soy/Corn $ Ratio** = $12.57 ÷ $5.12 = **2.46** (Soybean advantage)
- **Strong "new crop" price competition likely for 2022 planted acres** between Feedgrains & Oilseeds ⇨ beginning ***soon*** after the 2021 fall harvest

What to anticipate: Fall 2021 – Year 2022

Q? Are Corn, Soybeans & Wheat futures *at risk* to fall sharply in the last ½ of year 2022?

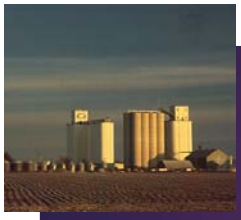
- **With *"tight"* beginning stocks across these crops** – less risk of declines until at least *late spring – early summer*
- **THEN** the ***risk*** to grain sellers is that grain markets will discount the risk of ***"short crops"*** in **2022**

  ⇨ ***IF*** in Summer 2022 U.S. & Foreign crop prospects become ***"OK-to-Good", THEN*** grain prices will likely ***"slide"*** into Fall 2022 *(by traders with no motive to "buy the market")*

Final Thoughts on Grains: Fall 2021 – Year 2022

- **Threats of financial-geopolitical events effecting grain markets?**
  - **Such "*macro-systematic risks*" are difficult to manage in commodities**
    - Most traders *"wait & see"* what occurs, ***but*** then either "scramble to vacate their risky market positions" when such financial / geopolitical events do happen – ***OR*** ride it out (& hope for the best).
  - **H_0^{KSU}: Such "major geopolitical & financial risks" DO exist** in grain markets.

    Important Questions: How likely are these events to occur? How harmful financially are the consequences if they happen? What is the cost of effectively managing them?
  - **Key question**: *"What grain market risk avoiding strategies can manage such potential geopolitical &/or financial events & do they "pay" financially?"*



Questions?

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www.AgManager.info

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