

# 2023 Corn Markets & Cost>Returns

## 'Winning-The-Game' Grain Marketing Workshop

Wichita, Kansas

February 1, 2023

DANIEL O'BRIEN

EXTENSION AGRICULTURAL ECONOMIST

**KANSAS STATE**  
UNIVERSITY

Department of Agricultural Economics



# Corn Market Perspective

2



**KANSAS STATE**  
UNIVERSITY Department of Agricultural Economics

# Corn Market Outlook <sup>2023</sup> in Kansas, the U.S. & Globally

3

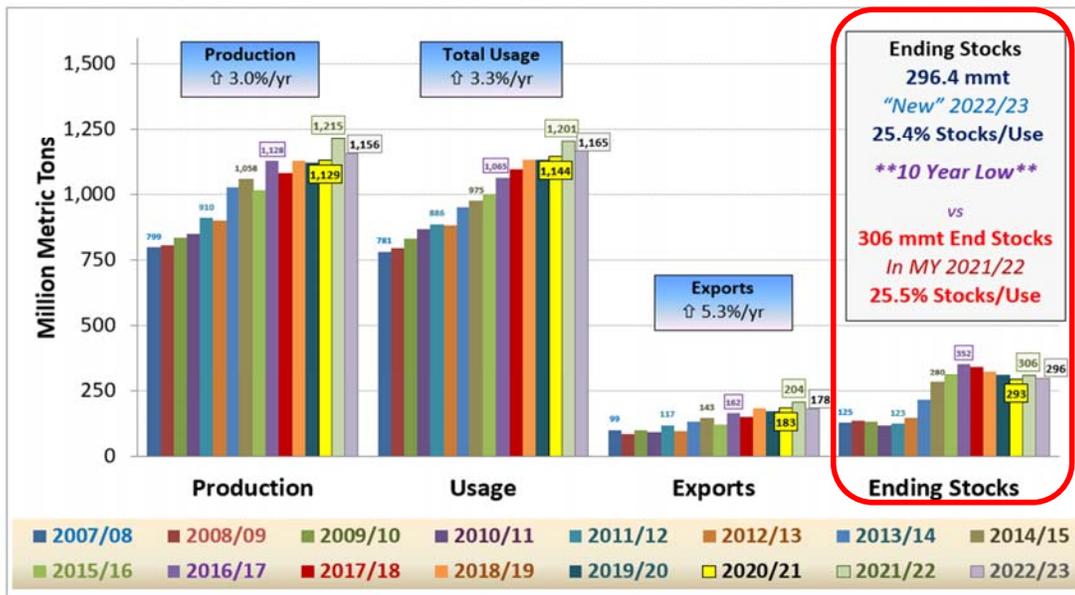
## 1) “Tight!” 2023 Global Corn, Oilseed & Wheat Stocks

- *The importance of South America’s 2023 corn & soybean crops!!*
- Occurring &/or Anticipated in 2023:
  - *Drought in Argentina*
  - *Smaller Crops & Exports from Ukraine*

## World Corn Supply-Demand

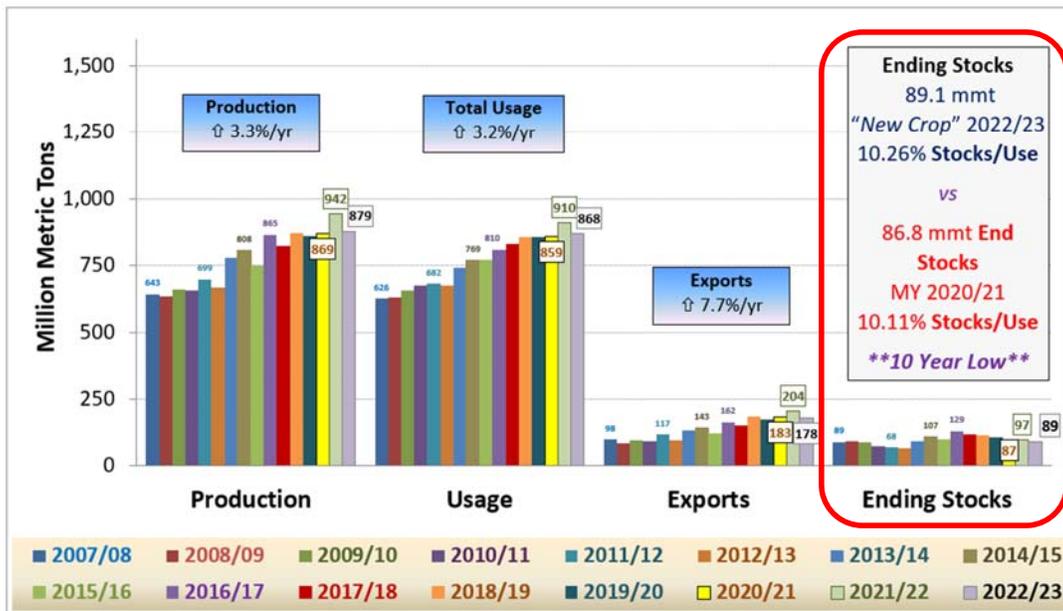
4

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



# “World Less-China” Corn Supply-Demand

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



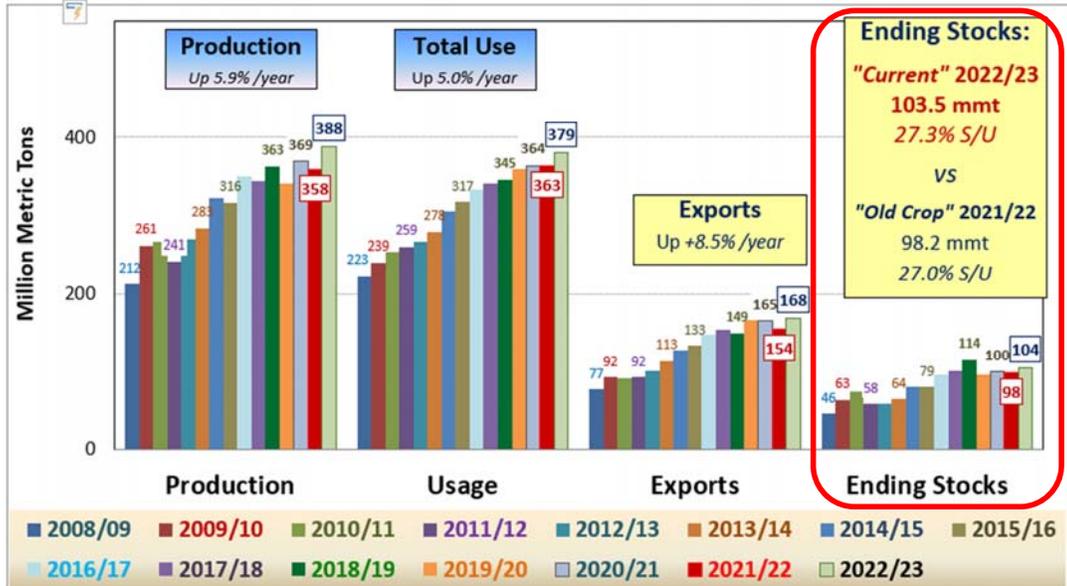
# World vs “World-Less-China” Corn % Stocks-to-Use:

MY 2007/08 through “New” MY 2022/23, as of the January 12, 2023 USDA WASDE report.



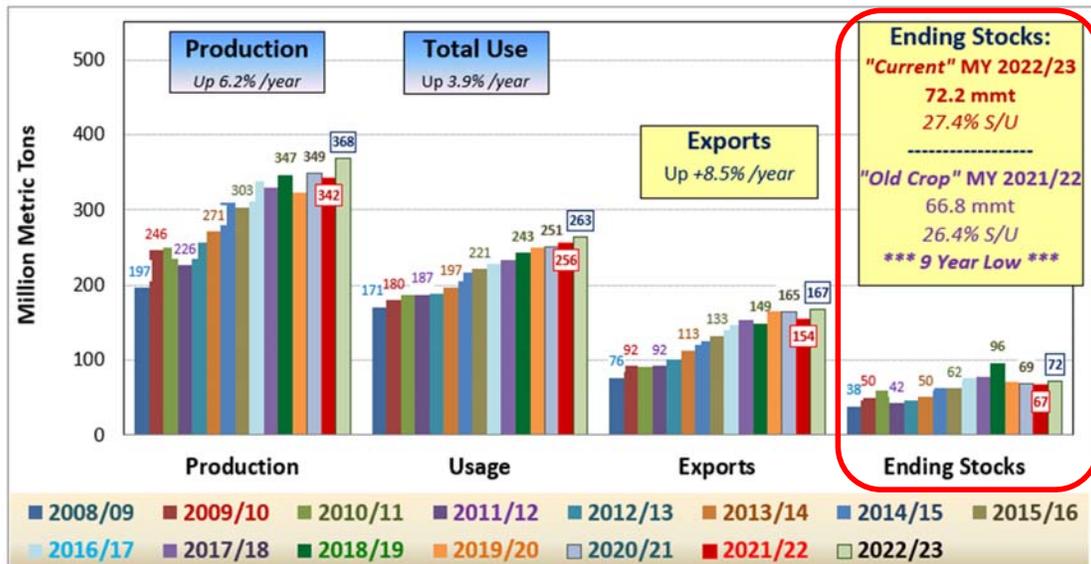
# World Soybean Usage & Ending Stocks

MY 2008/09 thru "Current" MY 2022/23 as of the January 12, 2023 WASDE Report



# "World Less-China" Soybean Use & Ending Stocks

MY 2008/09 - "Current" MY 2022/23 as of the January 12, 2023 WASDE Report



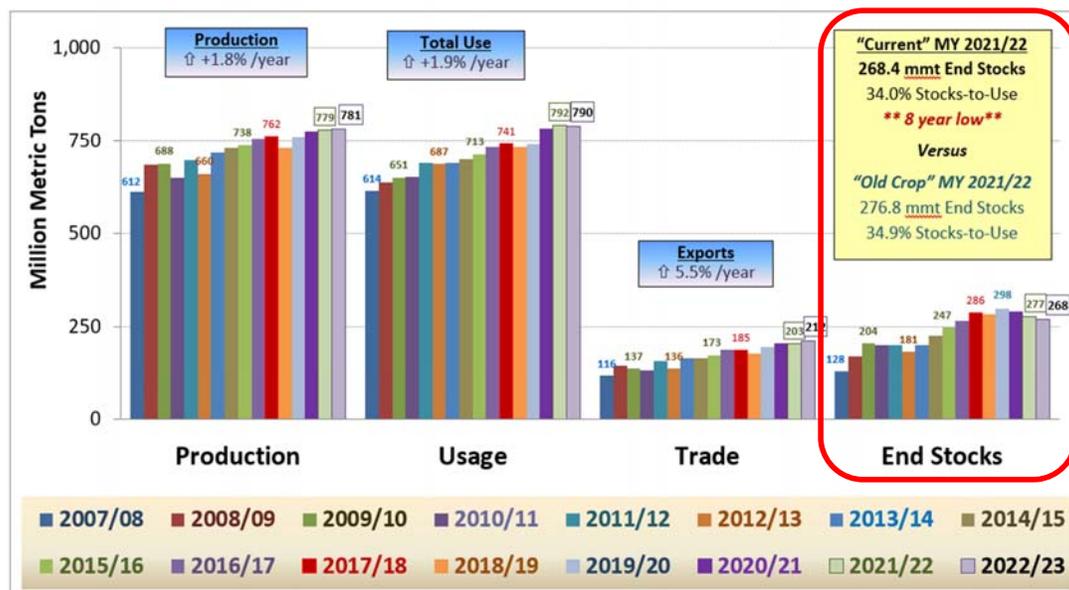
## World vs % "World Less-China" Soybean Stocks-to-Use

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



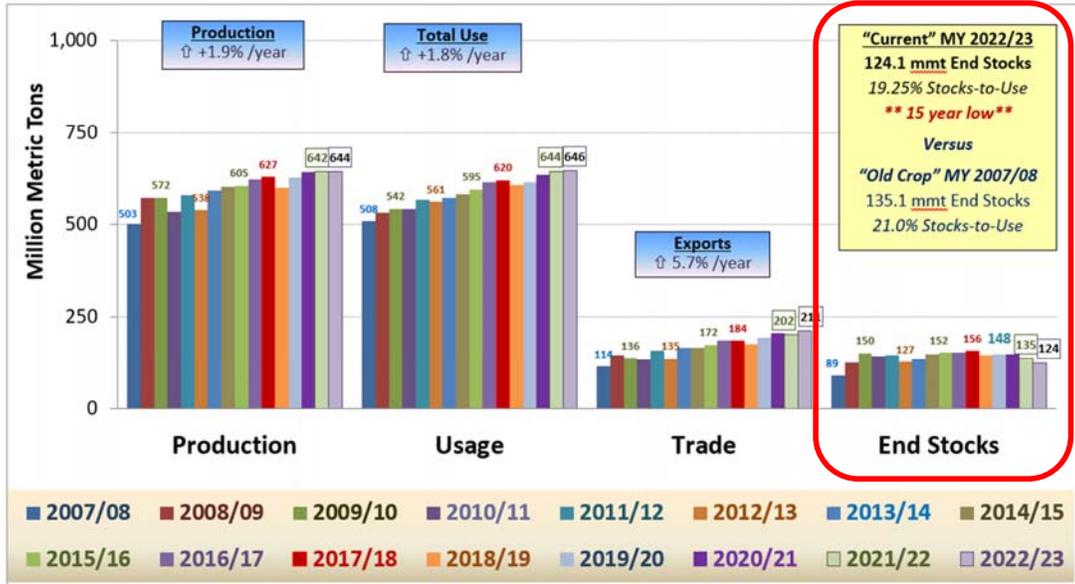
## World Wheat Usage & Ending Stocks

MY 2007/08 - "Current" 2022/23 as of the January 12, 2023 USDA WASDE Report



# “World Less-China” Wheat Usage & Ending Stocks

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



# World vs “World Less-China” End Stocks & % Stocks-to-Use

MY 2007/08 through “Current” MY 2022/23 as of the January 12, 2023 USDA WASDE report



## 2) Carryover impact of the Crop Production damage in the Western-Central Plains during 2022-2023

- *Western Kansas / OK / TX / NE*

→ *Stronger Corn & Soybean **BASIS** throughout the U.S. Corn Belt*

### ► Q? 2023 U.S. Corn, Soybean & Wheat Production?

→ *Seasonal risk in Spring-Summer <sup>2023</sup> – Dry subsoils in many areas*

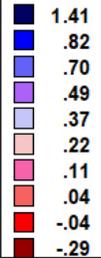


# Corn Basis, 01-25-2023

Basis = Cash Price - Nearby Futures Price

CBT Mar  
Futures  
Price: \$6.75

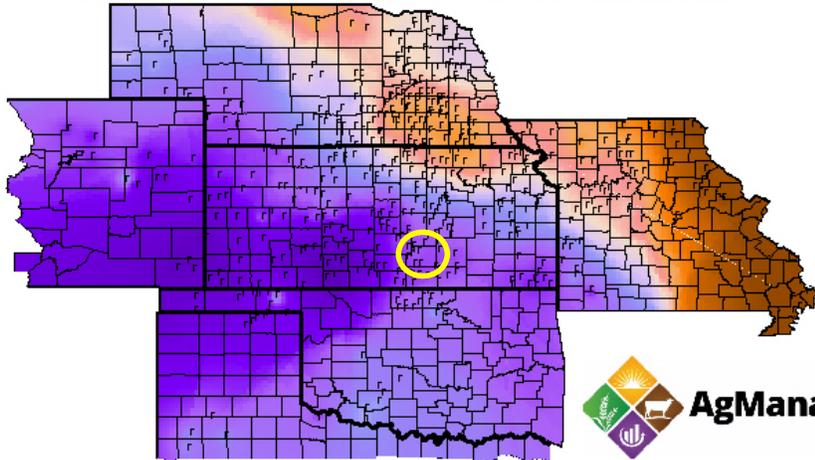
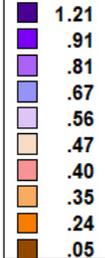
\$/Bushel



## Corn Basis Deviation, 01-25-2023

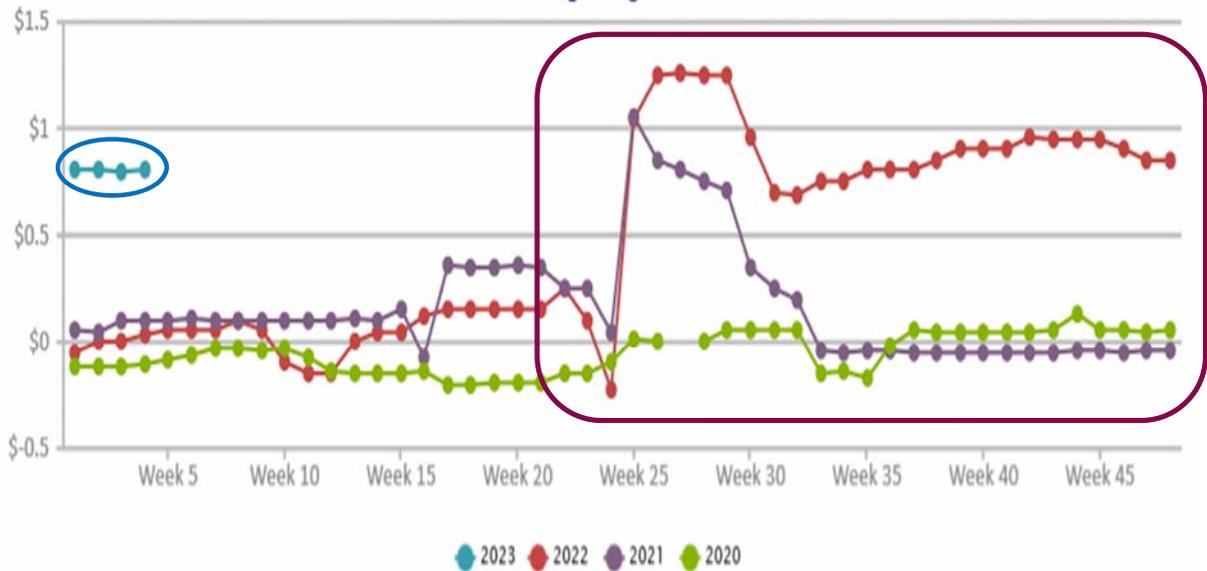
Basis Deviation = Current Basis - 3 Year Average Basis (2020, 2021, 2022)

\$/Bushel



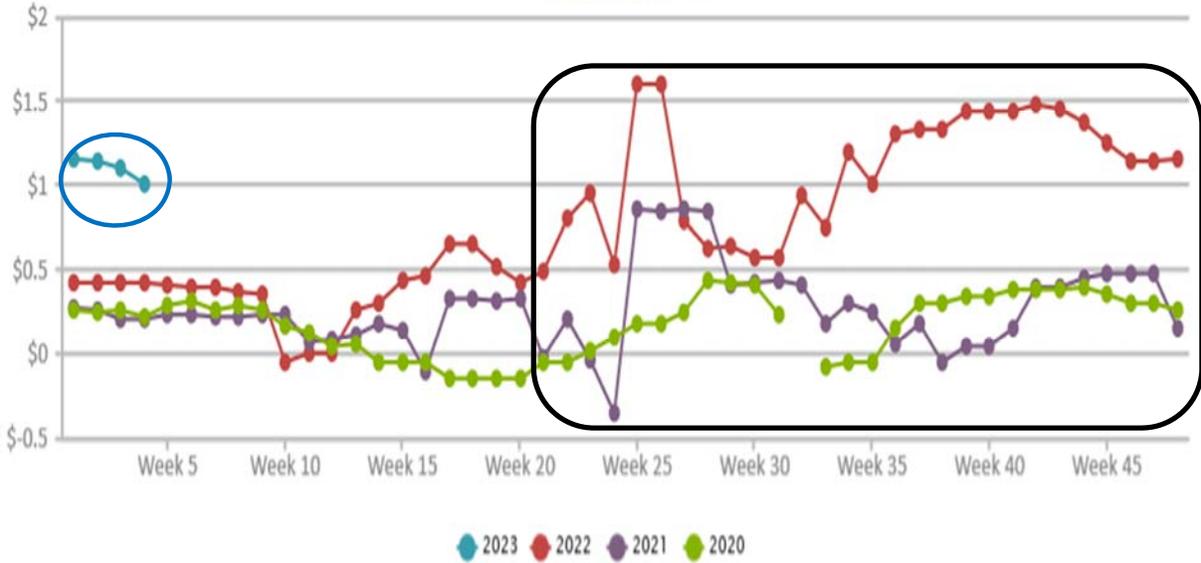
# COLWICH, KS: Corn Basis - KANZA COOP-EAST

www.AgManager.info



# COLWICH, KS: Corn Basis - THE ANDERSONS

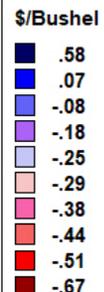
www.AgManager.info



# Soybean Basis, 01-25-2023

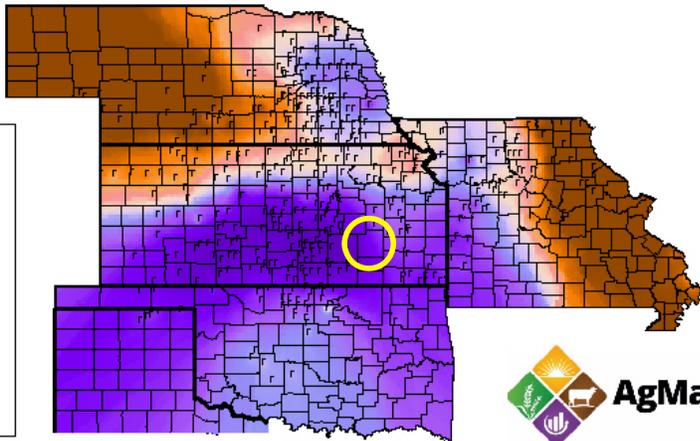
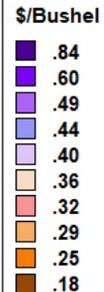
Basis = Cash Price - Nearby Futures Price

CBT Mar  
Futures  
Price: \$15.03



# Soybean Basis Deviation, 01-25-2023

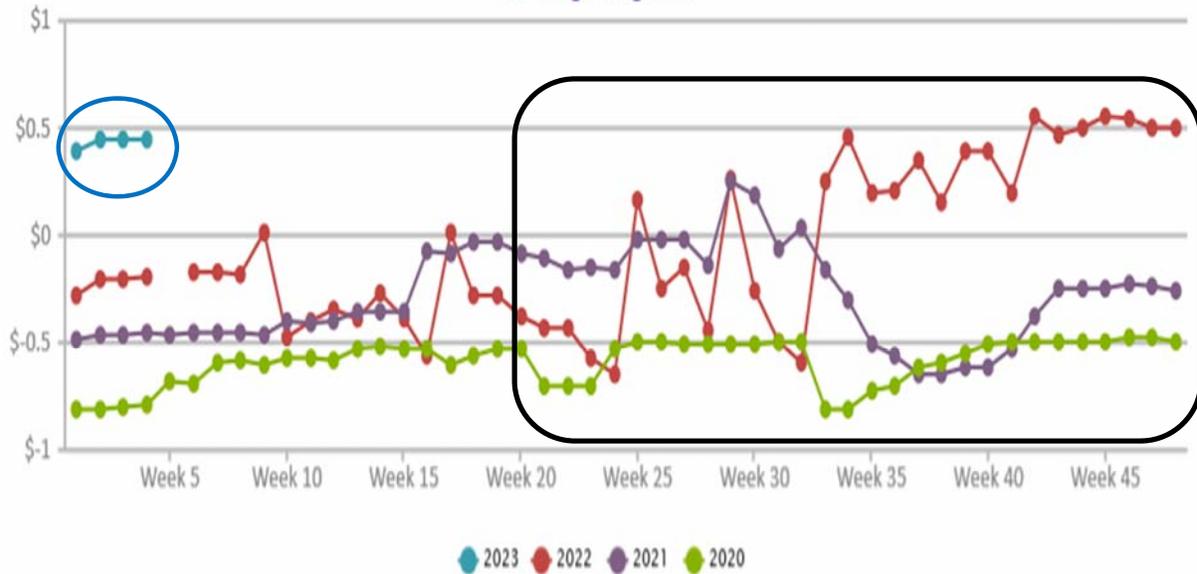
Basis Deviation = Current Basis - 3 Year Average Basis (2020, 2021, 2022)



## WICHITA, KS: Soybeans Basis - MID KANSAS COOP

19

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## Grain Market Outlook 2023 .....

20

### 3) Continuance of dry La Nina Weather Pattern in 2023???

- “La Nina is expected to continue into winter, with equal chances of La Nina & ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% Chance of ENSO-neutral.”

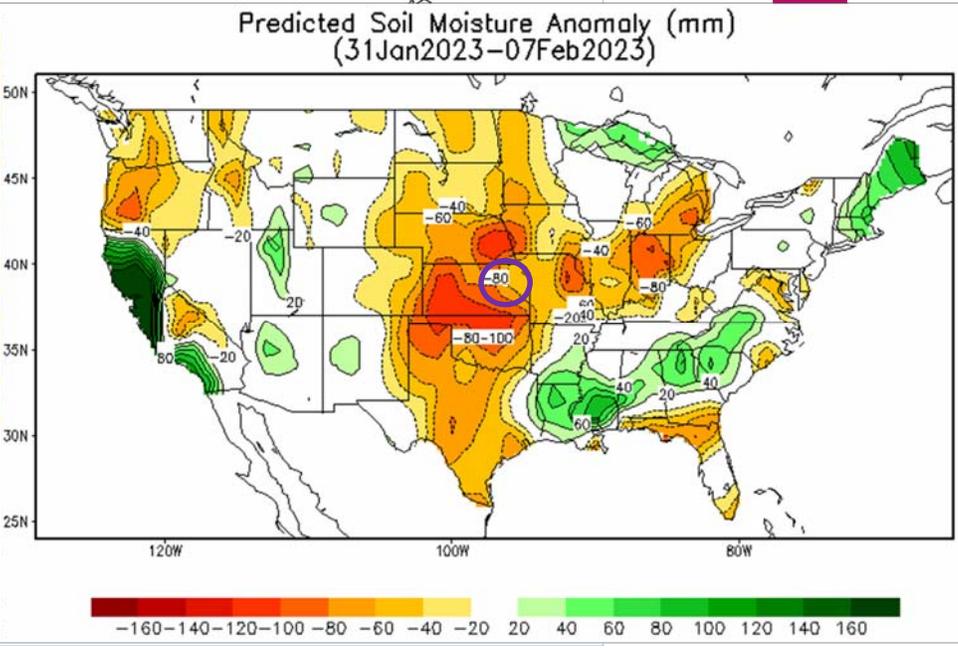
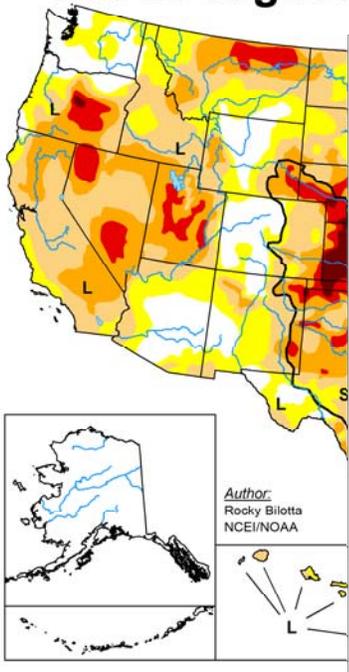
*U.S. Climate Prediction Center / NCEP January 3, 2023*

- “La Nina is breaking down, and an El Nino is forecast to emerge in 2023. Returning after several years, an El Nino can completely change the weather patterns for the weather seasons of 2023 & 2024.”

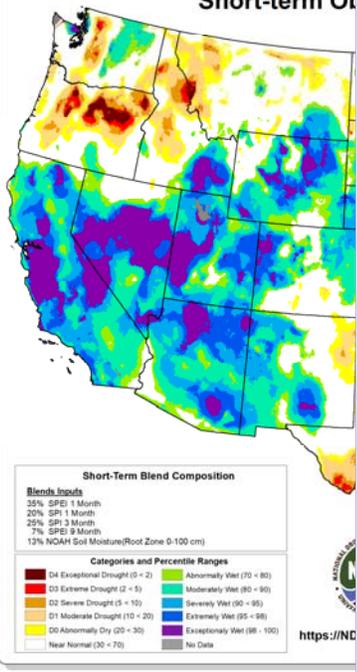
*Severe Weather Europe, Andrej Flis January 11, 2023*

# U.S. Drought Monitor

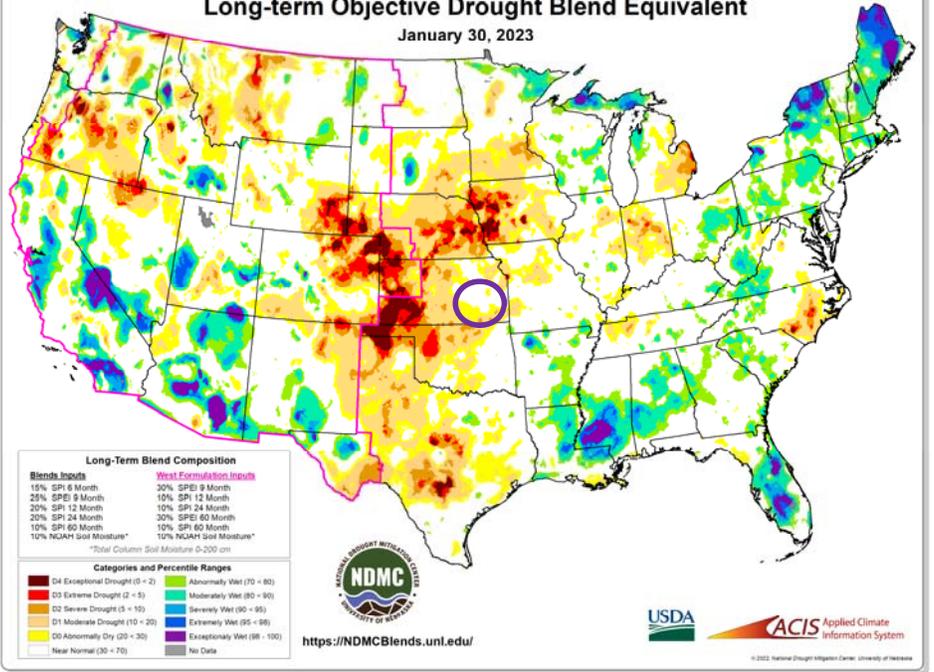
January 24, 2023  
 (Released Thursday, Jan. 26, 2023)  
 Valid 7 a.m. EST

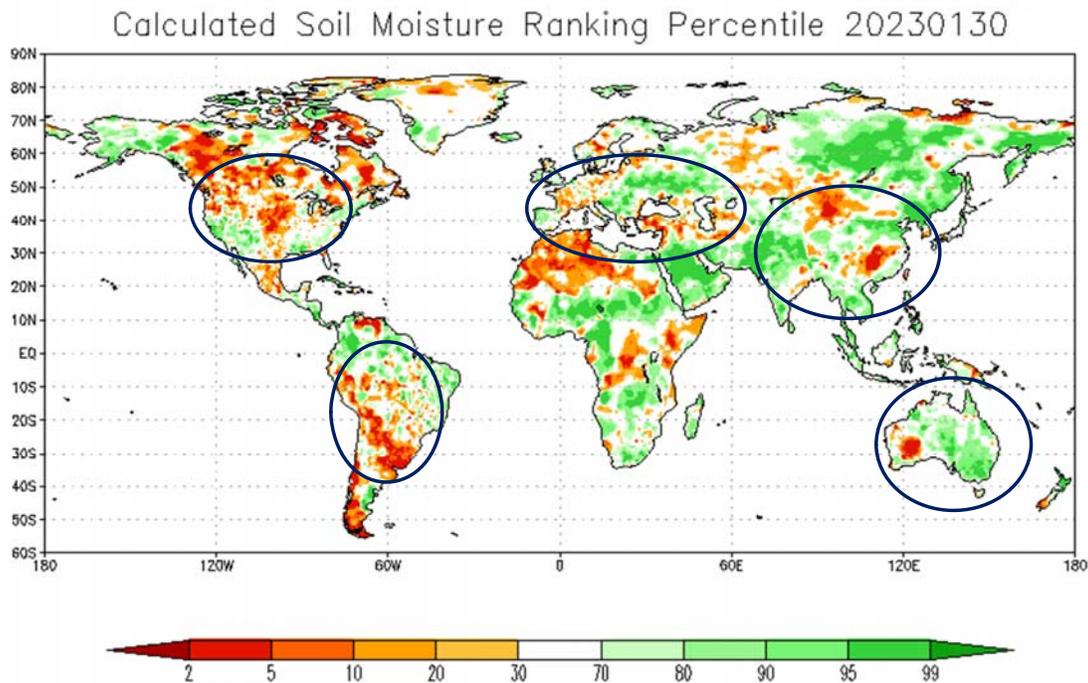


## Short-term Objective Drought Blend Equivalent



## Long-term Objective Drought Blend Equivalent





## Grain Market Outlook <sup>2023</sup> .....

24

### 4) Moderating prices for Fertilizer & other Crop Inputs – (but still historically high!)

- *Lower natural gas prices, w. but continued supply-chain challenges*
- Lower fertilizer / crop input costs will encourage **2023 U.S. Corn Acres – ≈ 92 million acres in 2023**
  - 88.6 million acres in 2022
  - 93.3 million acres in 2021
  - 90.7 million acres in 2020



Illinois Production Cost Report

AMS Livestock, Poultry and Grain Market News  
 IL Dept. of Ag Market News

January 26, 2023

**Fertilizer<sup>1</sup>**

Distributor (Dollars Per Ton)

| Product                                | Sale Type           | Price Range     | Average | Change   |
|--|---------------------|-----------------|---------|----------|
| Anhydrous Ammonia                      | Ask - FOB           | 1190.00-1490.00 | 1301.11 | DN 7.22  |
| Urea 46-0-0                            | Ask - FOB           | 670.00-700.00   | 686.67  | DN 23.33 |
| Liquid Nitrogen 28-0-0                 | Ask - DELV(Applied) | 550.00-710.00   | 605.17  | DN 9.33  |
| DAP (Diammonium Phosphate 18%N 46%P)   | Ask - FOB           | 800.00-850.00   | 822.50  | DN 9.17  |
| MAP (Monoammonium Phosphate 11%N 52%P) | Ask - FOB           | 790.00-925.00   | 870.00  | UP 18.00 |
| Potash (Potassium)                     | Ask - FOB           | 625.00-850.00   | 696.67  | DN 17.46 |

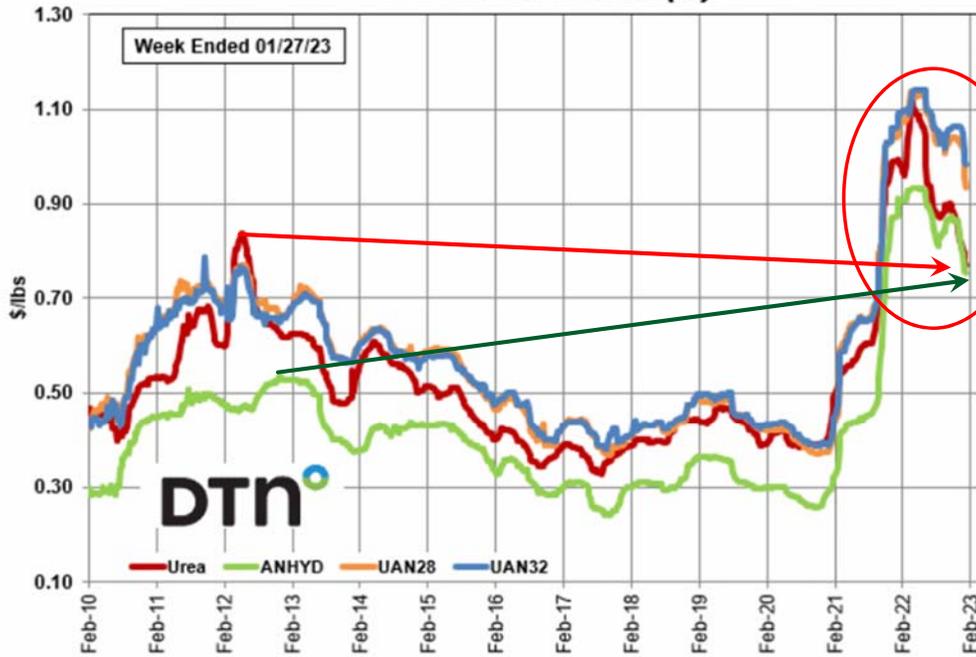
**Fuel**

Distributor(Dollars Per Gallon)

|                            |           |           |      |         |
|----------------------------|-----------|-----------|------|---------|
| Farm Diesel < 1000 gallons | Ask - FOB | 3.76-4.34 | 4.03 | UP 0.49 |
|----------------------------|-----------|-----------|------|---------|

### Cost of N/lb. (\$)

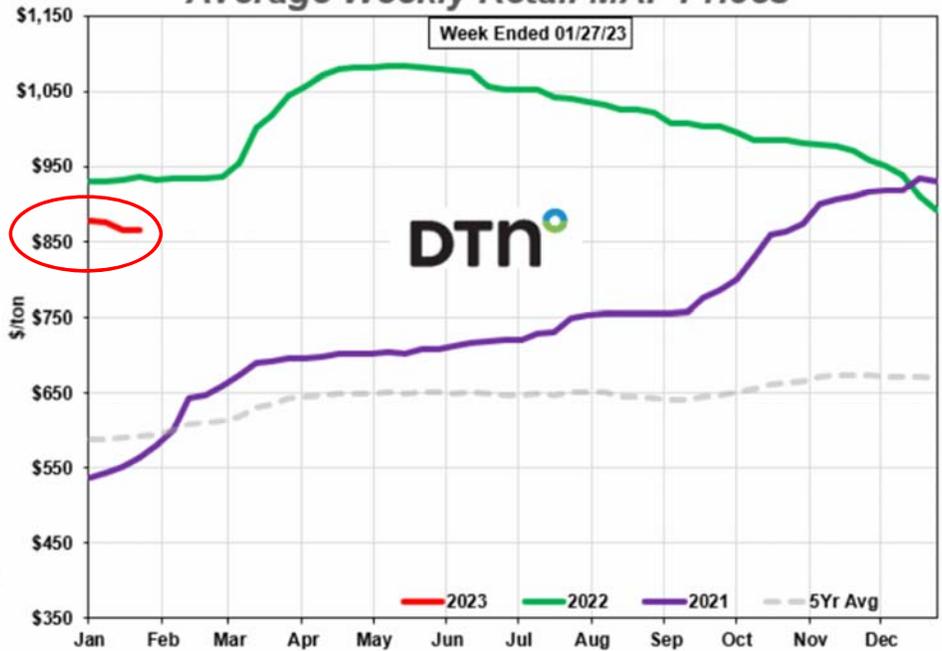
27

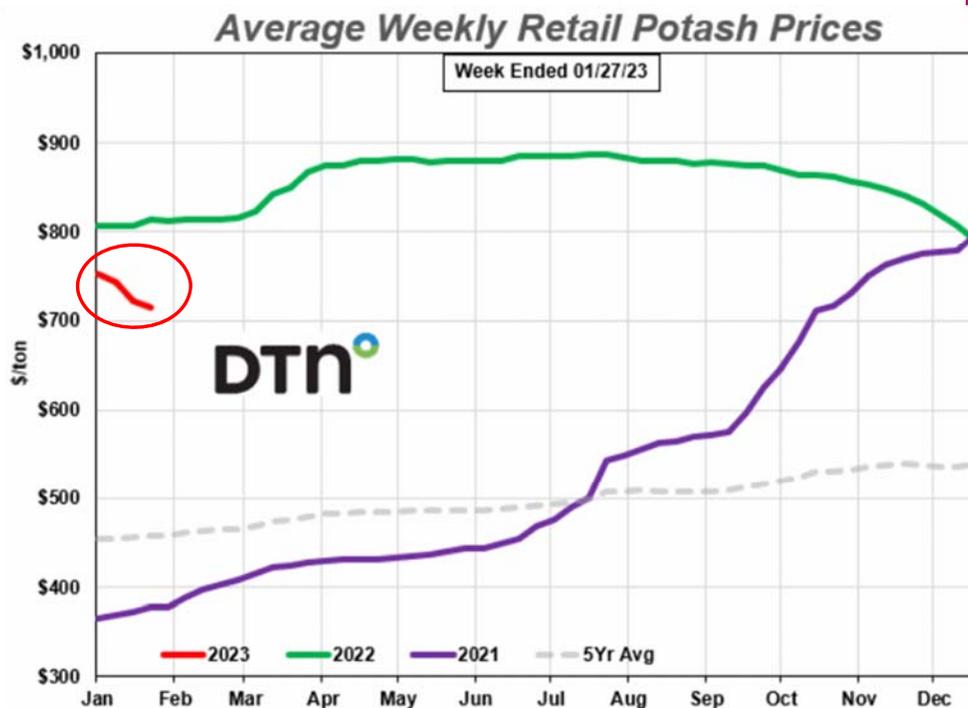


### Average Weekly Retail DAP Prices



### Average Weekly Retail MAP Prices





## Grain Market Outlook 2023

30

### 5) U.S. & Foreign Ag response in 2023 to current crop prices?

- **Crop Acres?** Usually,  $\hat{u}$  Prices  $\rightarrow$   $\hat{u}$  Crop Acres, **BUT ALL** crop \$'s are high (especially soybeans)
- **Crop Costs?** **IF** lower fertilizer & other crop costs, **THEN** it supports Corn acres & decreases Soybean acres in the U.S. Corn Belt 2023
- **Rationing Grain Use:** Evidence of reduced corn & soybean use....
- **Cropland Markets & Cash Rents:** High crop prices being reflected

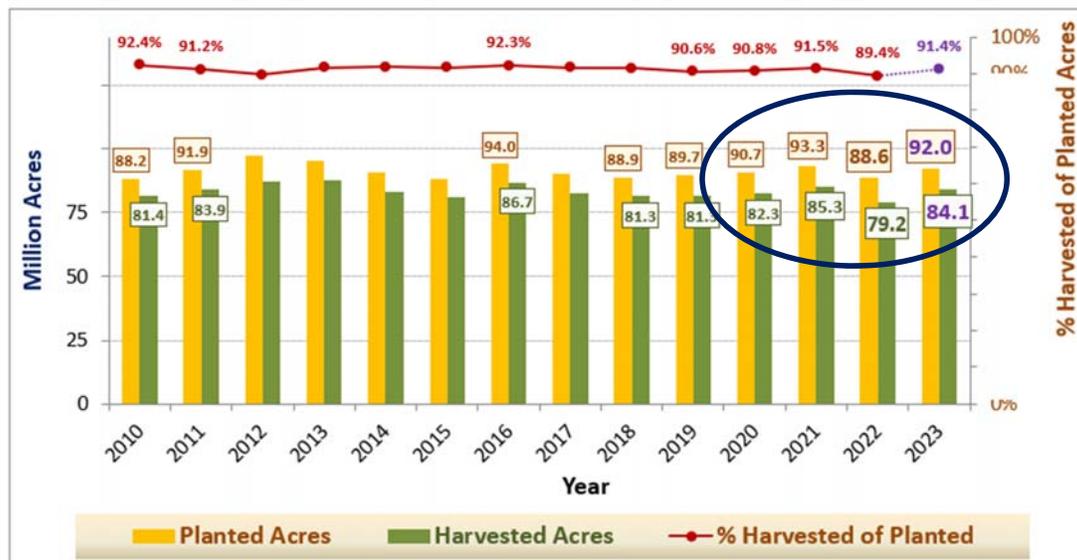
## What to anticipate in Year 2023 (1st of 3)

### □ 2023 Spring Planting of Feedgrains & Oilseeds

- With tight stocks across crops – any threats to planting 2023 U.S. corn or soybeans could cause **STRONG** price volatility
    - NOV<sup>2023</sup> Soybean futures @ \$13.60 <sup>¾</sup> /bu <sup>1/30/2023 p.m.</sup>
    - DEC<sup>2023</sup> Corn futures @ \$5.88 <sup>¾</sup> /bu <sup>1/30/2023 p.m.</sup>
    - 2023 “New Crop” Soy/Corn \$ Ratio = \$13.60 <sup>¾</sup> ÷ \$5.88 <sup>¾</sup> = **2.31** (vs 2.52 Avg)
- ++ Corn**
- Strong “new crop” price competition likely for 2023 planted acres between Feedgrains & Oilseeds ⇒ *Likely in March-May 2023*

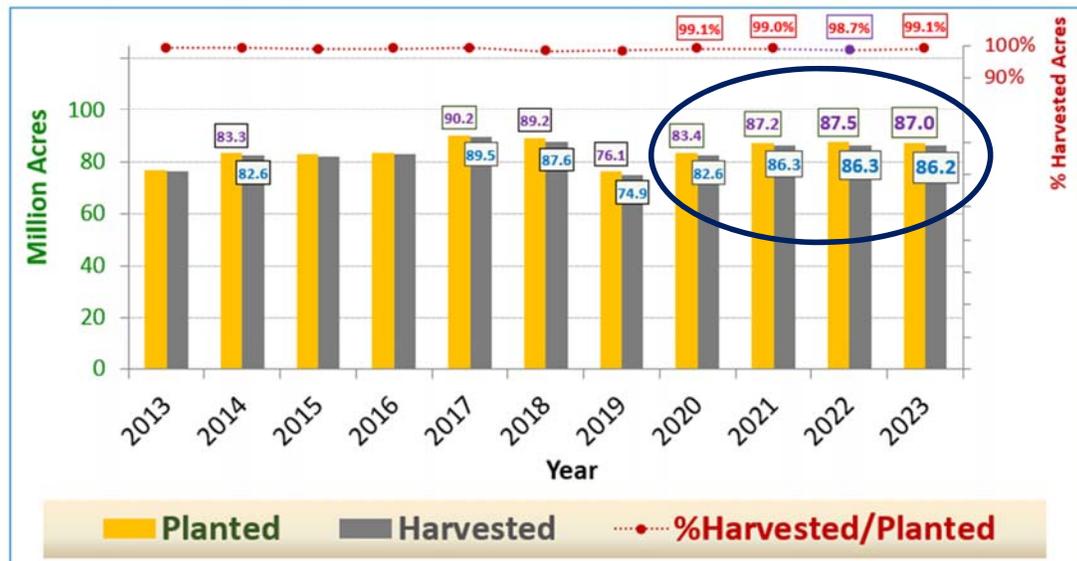
## U.S. Corn Acreage for 2010-2023

As of the January 12, 2023 USDA NASS & WASDE Reports



# U.S. Soybean Acreage for 2013-2023

Years 2013-2023 as of the January 12, 2023 USDA WASDE & NASS Reports



## Grain Market Outlook 2023 .....

34

### 6) Impact of Ongoing & Possible Geopolitical Conflicts?? In 2023

- **Ukraine-Russia War???:** Prospects for de-escalation & grain trade?
- **China-Taiwan???** - IF this occurs, it would impact the global economy along with U.S. grain trade
  - *Impacting U.S. soybeans, grain sorghum, likely all U.S. agricultural commodities – including U.S. corn*

## 7) Overall Prospects for 2023 Crop Markets???

- U.S. Crop Prices supported @ Moderate-to-High Levels – *until* someday grain markets are confident of larger crops & rebuilding of stocks
  - “2023/24 ‘New Crop’ Forward Bids” are vulnerable to moderate declines in late Spring – Summer<sup>2023</sup> & on into Fall harvest<sup>2023</sup>
- Ukraine-Russia War Effect: *Smaller* Ukraine corn, wheat crops+exports
- South America Impact: **Brazil** (Positive++) & **Argentina** (Negative -) crop prospects will effect U.S. prices through at least August<sup>2023</sup>

## South America Corn-Soybean Calendar

### □ South America Planting Influences ⇒ “Bid for Acres”

#### • Brazil & Argentina Corn & Soybean Crop Calendar

##### ○ Brazil

- Corn: 1<sup>st</sup> crop *Planting* – October-December ⇒ Harvest: February-June
- Soybeans: *Planting* – October-December ⇒ Harvest: March-June
- Corn: 2<sup>nd</sup> crop *Planting* – January-February ⇒ Harvest: March-June

##### ○ Argentina

- Corn: *Planting* – mid September-December ⇒ Harvest: mid March-early June
- Soybeans: 1<sup>st</sup> crop *Planting* – November-December ⇒ Harvest: Late March-early May
- Soybeans: 2<sup>nd</sup> crop *Planting* – December-early Jan. ⇒ Harvest: mid April – mid June

## What to anticipate: Year 2023 (2nd of 3)

Q? Are grain markets *at risk* to fall sharply in the last ½ of 2023?

- With "tight" beginning stocks across these crops – less risk of major declines UNTIL at least late spring – early summer
- THEN the *risk* to grain sellers is that crop markets will discount the possibility of "short crops" in 2023
  - ⇒ IF in Summer <sup>2023</sup> U.S. & Foreign crop prospects are "OK-to-Good", THEN grain markets likely "slide" lower into Fall 2023

## What to anticipate: Year 2023 (3rd of 3)

- USDA Reports ⇒ *Often a "driver" of grain market volatility*
  - WASDE: Jan. 12\*\*, 2/8, 3/8, 4/8, 5/12, 6/9, 7/12, 8/11, 9/12.....
  - Planted Area: Prospective Plantings – May 31, Acreage – June 30
- "Strong" Demand-Pull for Feedgrains in the Western Corn Belt
  - Summer demand for "New Crop" supplies (i.e. "users scrambling!")
  - *Possibility of "Inverted" futures & strong basis* during Sep-Nov<sup>2023</sup> Quarter *IF* a short crop happens in 2023 ⇒ What are the odds?

# Corn Market Prices

39



**KANSAS STATE UNIVERSITY**

Department of Agricultural Economics

## Corn Futures *CME* – Tuesday, 2/1 9:20 p.m. Central

40

### ELEC. CORN (@C) [10]

| Month  | Last   | Chg  | High  | Low   |
|--------|--------|------|-------|-------|
| Mar-23 | 676'6  | -3'0 | 679'2 | 676'2 |
| May-23 | 674'6  | -2'6 | 677'2 | 674'2 |
| Jul-23 | 662'4  | -2'6 | 665'0 | 662'2 |
| Sep-23 | 605'6  | 0'2  | 606'6 | 604'2 |
| Dec-23 | 591'4  | 0'6  | 592'2 | 589'2 |
| Mar-24 | 598'0  | 0'2  | 598'0 | 597'0 |
| May-24 | 601'4  | 0'4  | 601'4 | 601'0 |
| Jul-24 | 600'0s | 1'2  | 602'6 | 599'2 |

**CME Corn  
Futures**

*"Old Crop"*  
**MARCH 2023  
OHLCs**

**\$6.79 3/4 /bu**

*Trade at 9:15 p.m.*  
**Tuesday,  
1/31/2023**



**CME Corn  
Futures**

*"New Crop"*  
**DEC 2023  
OHLCs**

**\$5.90 3/4 /bu**

*Trade at 9:15 p.m.*  
**Tuesday,  
1/31/2023**



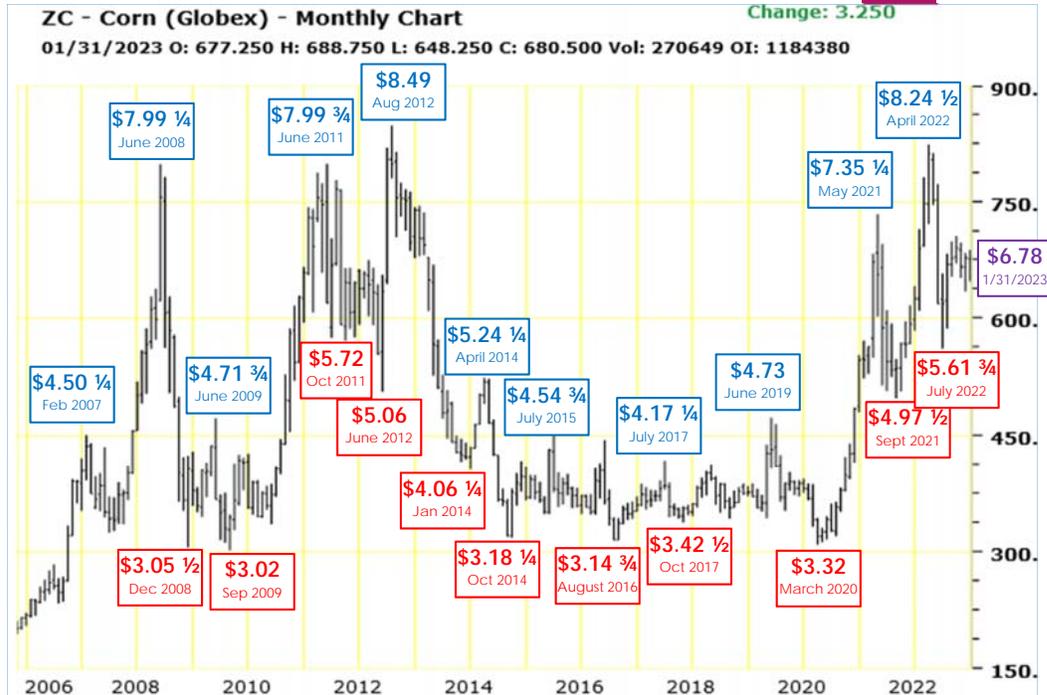
# CME Corn Futures *Continuous Weekly to 1/31/2023*



## CME Corn Futures

Monthly  
"Continuous"  
OHLCs

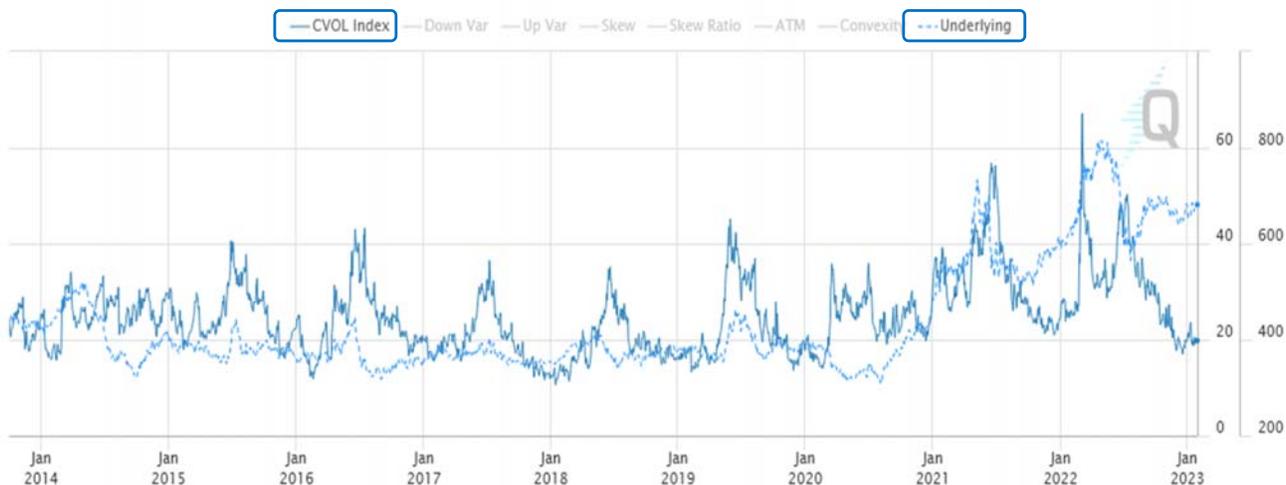
Dec<sup>2005</sup>  
to  
Jan<sup>2023</sup>



## CORN CVOL HISTORY (CVL)

Zoom 1M 3M 6M 1Y 2Y 3Y 5Y YTD ALL

Oct 1, 2013 -- Jan 31, 2023



## U.S. Corn Supply and Demand

| Item                           | 2021/2022<br>estimate | 2022/2023<br>forecast | Change from<br>December 9 | Change from<br>2021/2022 |
|--------------------------------|-----------------------|-----------------------|---------------------------|--------------------------|
| Planted area (million acres)   | 93.3                  | 88.6                  | **                        | -4.7                     |
| Harvested area (million acres) | 85.3                  | 79.2                  | -1.6                      | -6.1                     |
| Yield (bushels per acre)       | 176.7                 | 173.3                 | 1.0                       | -3.3                     |
| ----- Million bushels -----    |                       |                       |                           |                          |
| Beginning stocks               | 1,235                 | 1,377                 | **                        | 142                      |
| Production                     | 15,074                | 13,730                | -200                      | -1,344                   |
| Imports                        | 24                    | 50                    | --                        | 26                       |
| Total supply                   | 16,333                | 15,157                | -200                      | -1,176                   |
| Feed and residual              | 5,718                 | 5,275                 | -25                       | -443                     |
| Food, seed, and industrial     | 6,766                 | 6,715                 | -10                       | -51                      |
| Ethanol                        | 5,326                 | 5,275                 | --                        | -51                      |
| Domestic use                   | 12,484                | 11,990                | -35                       | -494                     |
| Exports                        | 2,471                 | 1,925                 | -150                      | -546                     |
| Total use                      | 14,956                | 13,915                | -185                      | -1,041                   |
| Ending stocks                  | 1,377                 | 1,242                 | -15                       | -135                     |
| ----- Percent -----            |                       |                       |                           |                          |
| Stocks to use ratio            | 9.2                   | 8.9                   | **                        | -0.3                     |
| ----- Dollars per bushel ----- |                       |                       |                           |                          |
| Average market price           | 6.00                  | 6.70                  | --                        | 0.70                     |

-- No change. \*\* Rounds to zero.

January 12, 2023

## World Corn Production

47

| Country or Region        | 2021/2022 |                        | 2022/2023 |                        |                       |
|--------------------------|-----------|------------------------|-----------|------------------------|-----------------------|
|                          | Estimate  | Change from December 9 | Forecast  | Change from December 9 | Change from 2021/2022 |
| ----- Million Tons ----- |           |                        |           |                        |                       |
| World                    | 1,214.9   | -2.0                   | 1,155.9   | -5.9                   | -58.9                 |
| United States            | 382.9     | --                     | 348.8     | -5.1                   | -34.1                 |
| Foreign                  | 832.0     | -2.0                   | 807.2     | -0.8                   | -24.8                 |
| Argentina                | 49.5      | -2.0                   | 52.0      | -3.0                   | 2.5                   |
| Brazil                   | 116.0     | --                     | 125.0     | -1.0                   | 9.0                   |
| Mexico                   | 26.8      | --                     | 27.6      | --                     | 0.8                   |
| Canada                   | 14.0      | --                     | 14.5      | --                     | 0.6                   |
| European Union           | 71.0      | --                     | 54.2      | --                     | -16.8                 |
| Serbia                   | 6.0       | --                     | 5.4       | --                     | -0.6                  |
| FSU-12                   | 63.7      | --                     | 46.3      | --                     | -17.4                 |
| Ukraine                  | 42.1      | --                     | 27.0      | --                     | -15.1                 |
| Russia                   | 15.2      | --                     | 14.0      | --                     | -1.2                  |
| South Africa             | 16.1      | --                     | 16.7      | --                     | 0.6                   |
| China                    | 272.6     | --                     | 277.2     | 3.2                    | 4.6                   |
| India                    | 33.6      | --                     | 32.0      | --                     | -1.6                  |

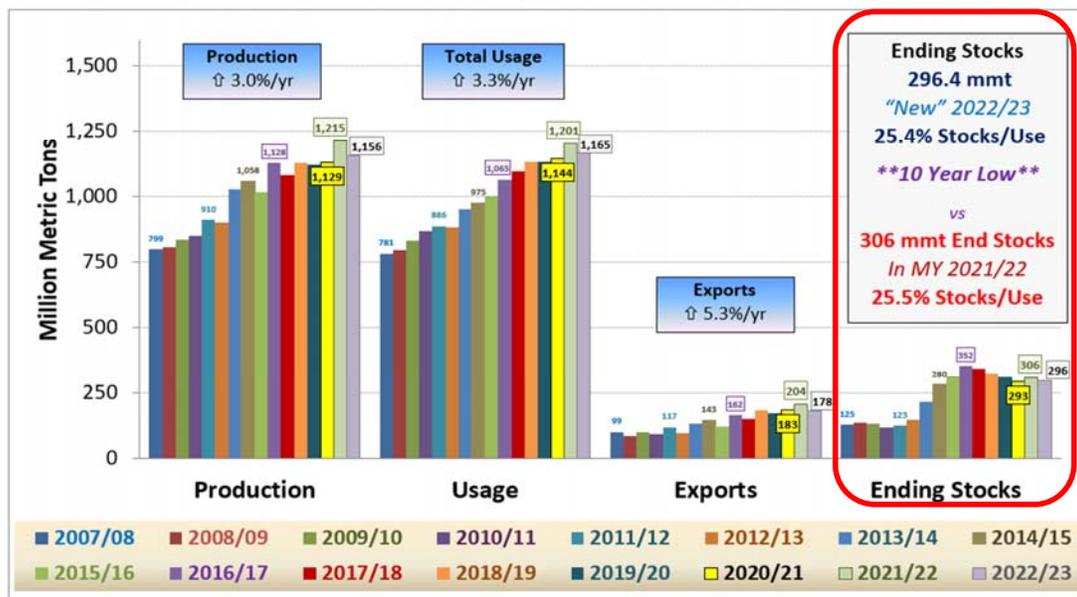
-- No change.

January 12, 2023

## World Corn Supply-Demand

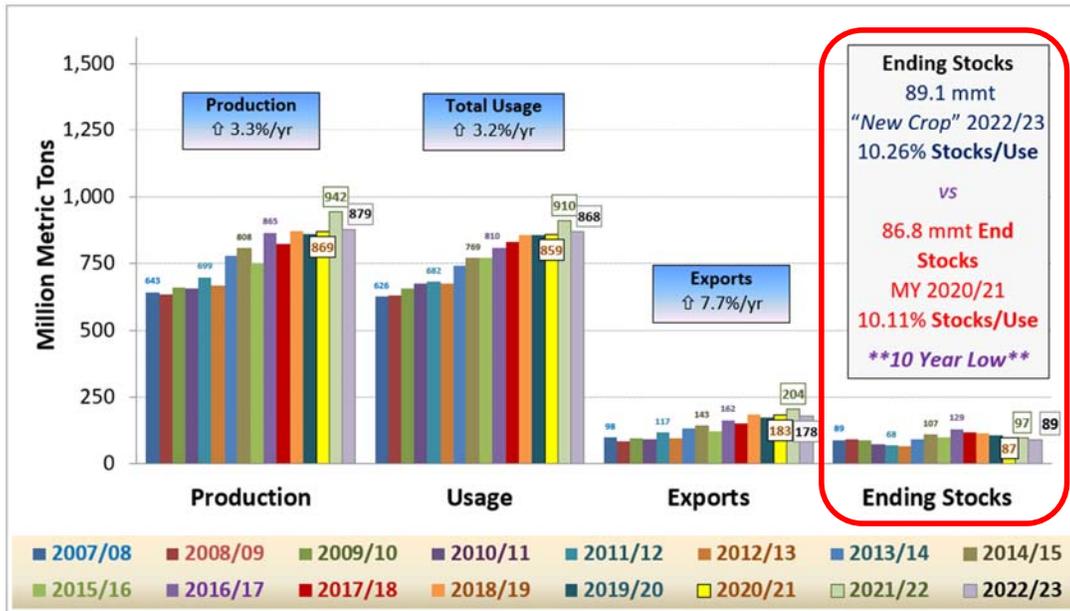
48

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



# "World Less-China" Corn Supply-Demand

MY 2007/08 – "Current" MY 2022/23, as of the January 12, 2023 USDA WASDE Report



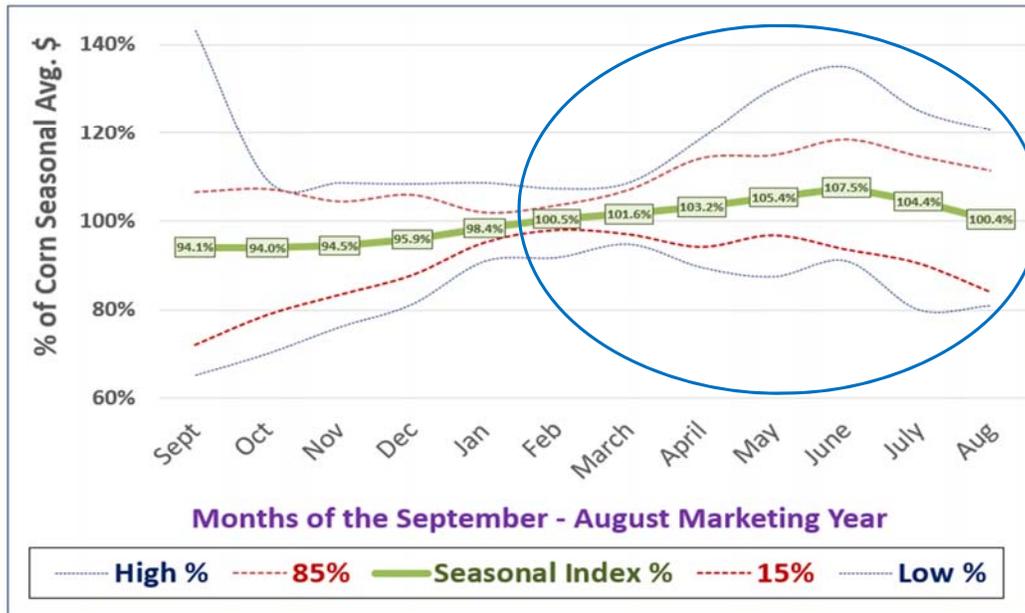
# World vs "World Less-China" Corn % Stocks-to-Use

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



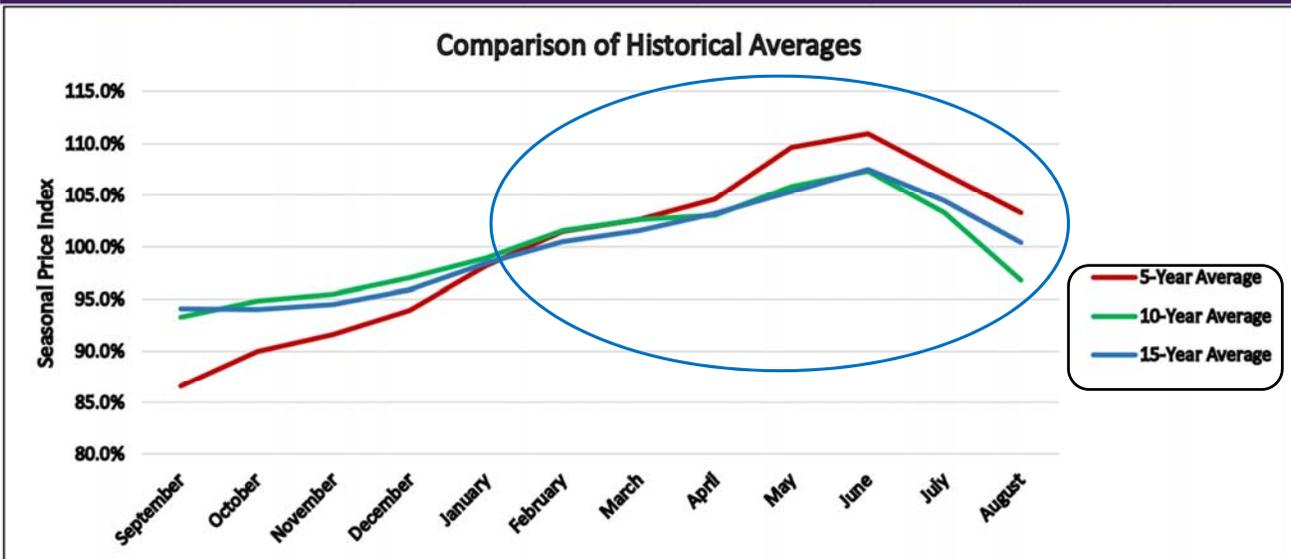
# Corn Seasonal Price Index *South Central KS*

Last 23 Marketing Years: 1999/2000 through 2021/2022



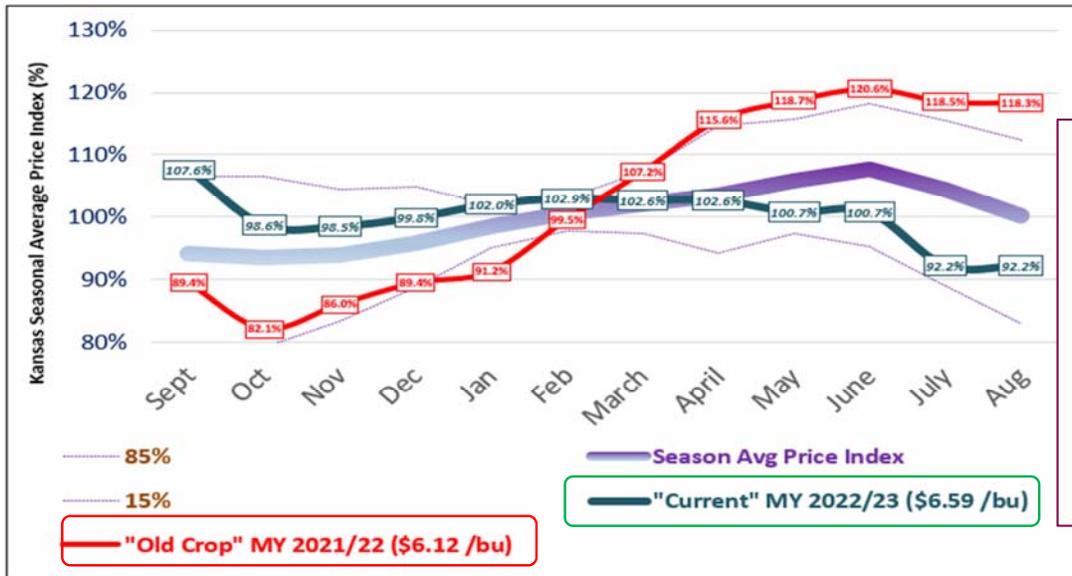
## Corn: Seasonal Average Price Index

For the last 5, 10, & 15 Years in South Central Kansas



# Corn Seasonal Prices *Kansas-U.S.*

Long Term Seasonal \$ Trends + MY 2021/22 & "Current" MY 2022/23 As of 1/31/2023



**USDA Corn \$ Forecasts:**

*"Old Crop"*  
MY 2021/22  
= \$6.00 /bu <sup>U.S.</sup>

*"Current"*  
MY 2022/23  
= \$6.70 /bu <sup>U.S.</sup>

## My DTN Cash Bids

My DTN Cash Bids for Postal Code 64473, Radius 300 miles

54

| Elevator/Location                               | Jan 2023 | Feb 2023 | Mar 2023 | Apr 2023 | May 2023 | Jun 2023 | Jul 2023 | Sep 2023 | Oct 2023 | Nov 2023 | Dec 2023 |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| THE ANDERSONS COLWICH, KS                       | 7.62     | 7.77     | 7.77     | 7.89     | 7.89     | 7.72     | 7.72     | 6.27     | 6.27     | 6.32     | 6.37     |
| KANZA COOP-EAST COLWICH, KS                     | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      |
| KANZA COOP-EAST ANDALE, KS                      | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      |
| FARMERS COOP ELEVATOR CO-BENTLEY SEDGWICK, KS   | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.74     | ---      |
| KANZA COOP SEDGWICK, KS                         | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      |
| FARMERS COOP ELEVATOR CO MOUNT HOPE, KS         | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.74     | ---      |
| GARDEN PLAIN COOP GARDEN PLAIN, KS              | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.72     | ---      |
| FARMERS COOP ELEVATOR CO-PATTERSON BURRTON, KS  | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.72     | ---      |
| GARDEN PLAIN COOP VIOLA, KS                     | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.72     | ---      |
| FARMERS COOP ELEVATOR COMPANY-EAST HALSTEAD, KS | 7.57     | ---      | ---      | ---      | ---      | ---      | ---      | ---      | ---      | 5.72     | ---      |

Ethanol Plant FC Basis:  
\$0.40 to \$0.45 over DEC<sup>23</sup>

Elevator FC Basis:  
\$0.18 to \$0.20 under DEC<sup>23</sup>

**Tuesday, January 31, 2023**  
As of 9:45 p.m.

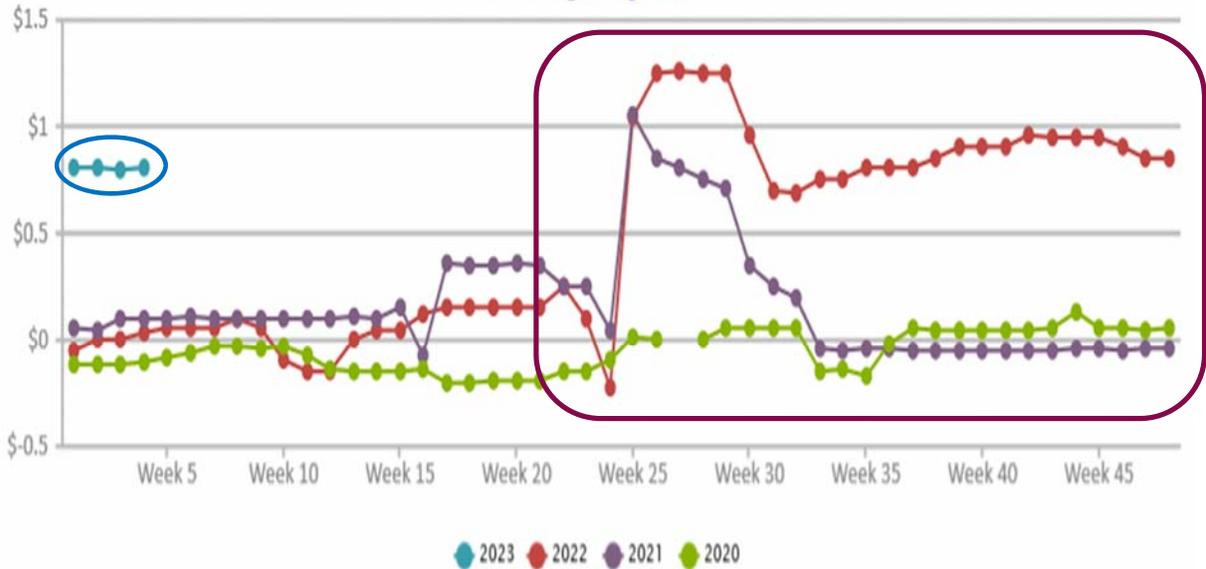
**US #2 Yellow Corn -Bulk**

**Ethanol Plant**

| State/Province/Region | Sale Type | Basis (¢/bu)       | Basis Change | Price (\$/Bu) | Price Change        | Average |
|-----------------------|-----------|--------------------|--------------|---------------|---------------------|---------|
| Illinois              | Bid       | -15.00H to 40.00H  | UNCH         | 6.6875-7.2375 | UP 0.0075           | 6.9025  |
| Indiana               | Bid       | -20.00H to 17.00H  | UNCH         | 6.6375-7.0075 | UP 0.0075           | 6.8942  |
| Iowa East             | Bid       | -20.00H to 13.00H  | UNCH-DN 2    | 6.6375-6.9675 | UP 0.0075-DN 0.0125 | 6.8075  |
| Iowa West             | Bid       | 3.00H to 52.00H    | UNCH         | 6.8675-7.3575 | UP 0.0075           | 7.1420  |
| Kansas                | Bid       | 50.00H to 85.00H   | UNCH         | 7.3375-7.6875 | UP 0.0075           | 7.5375  |
| Michigan              | Bid       | -30.00H to -17.00H | UNCH         | 6.5375-6.6675 | UP 0.0075           | 6.5975  |
| Minnesota             | Bid       | -25.00H to 33.00H  | UNCH         | 6.5875-7.1675 | UP 0.0075           | 6.9208  |
| Missouri              | Bid       | 5.00H to 55.00H    | UNCH         | 6.8875-7.3875 | UP 0.0075           | 7.0600  |
| Nebraska              | Bid       | 25.00H to 90.00H   | UNCH         | 7.0875-7.7375 | UP 0.0075           | 7.2783  |
| Ohio                  | Bid       | -15.00H to 12.00H  | UNCH         | 6.6875-6.9575 | UP 0.0075           | 6.8475  |
| South Dakota          | Bid       | -12.00H to 50.00H  | UNCH         | 6.7175-7.3375 | UP 0.0075           | 6.9729  |
| Wisconsin             | Bid       | -45.00H to -21.00H | UNCH         | 6.3875-6.6275 | UP 0.0075           | 6.5025  |

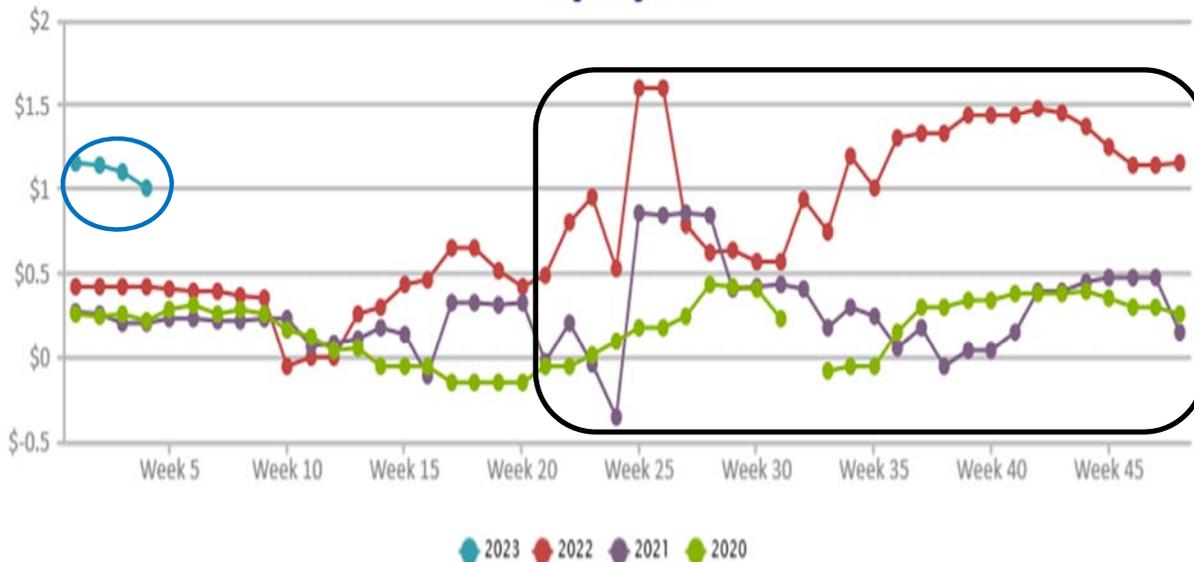
**COLWICH, KS: Corn Basis - KANZA COOP-EAST**

www.AgManager.info



## COLWICH, KS: Corn Basis - THE ANDERSONS

www.AgManager.info



## U.S. Corn Supply-Demand Balance Sheet

“Current” MY 2022/23 & Proj. “New Crop” MY 2023/24 as of the 1/13/2023 USDA WASDE + KSU Ests.

| Item  | USDA 2022/23<br>1/12/2023 WASDE<br>172.3 bu/ac<br>13,730 bb crop | A. USDA “New Crop”<br>MY 2023/24 Scenario #1<br>“High Yields”<br>= 181.5 bu/ac<br>15,265 bb crop | B. USDA “New Crop”<br>MY 2023/24 Scenario #1<br>“Average Yields”<br>= 176.0 bu/ac<br>14,802 bb crop |
|---|--|--|---|
| % Probability of Occurring (KSU)                | 75% <sup>KSUest</sup>  | 35% <sup>KSUest</sup>  | 65% <sup>KSUest</sup>   |
| Planted Area (million acres)                    | 88,579   | 92,000   | 92,000  |
| Harvested Area (million acres)                  | 79,207   | 84,100   | 84,100  |
| % Harvested/Planted Area                        | 89.42%   | 91.41%   | 91.41%  |
| Yield / harvested acre (bu/ac)                  | 172.3  | 181.5  | 176.0   |
| Million Bushels                                 |  |  |   |
| Beginning Stocks (million bushels)              | 1,377  | 1,242  | 1,242   |
| <b>Production (million bu.)</b>                 | <b>13,730</b>  | <b>15,265</b>  | <b>14,802</b>   |
| Imports (million bu.)                           | 50.0   | 25.0   | 25.0  |
| <b>Total Supply (million bu.)</b>               | <b>15,157</b>  | <b>16,531</b>  | <b>16,094</b>   |
| Ethanol for fuel Use (million bu.)              | 5,275  | 5,325  | 5,325   |
| Food & Industrial Use (min bu.)                 | 1,419.4  | 1,419.4  | 1,419.4   |
| Seed Use (million bu.)                          | 30.6   | 30.6   | 30.6  |
| Exports (million bu.)                           | 1,925  | 2,275  | 2,275   |
| Feed & Residual Use (million bu.)               | 5,275  | 5,700  | 5,700   |
| <b>Total Use (million bu.)</b>                  | <b>13,915</b>  | <b>14,750</b>  | <b>14,750</b>   |
| Ending Stocks (million bu.)                     | 1,242  | 1,781  | 1,344   |
| <b>% Ending Stocks-to-Use</b>                   | <b>8.93%</b>   | <b>12.07%</b>  | <b>8.94%</b>  |
| Days of Supply (% S/U x 365 days)               | 32.6 days  | 44.1 days  | 32.6 days   |
| <b>U.S. Corn Average Farm Price (\$/bushel)</b> | <b>\$6.70</b> <sup>USDA</sup><br>\$6.46 <sup>KSU</sup>           | <b>\$5.70</b> <sup>USDA</sup>  | <b>\$6.45</b> <sup>KSU</sup>  |

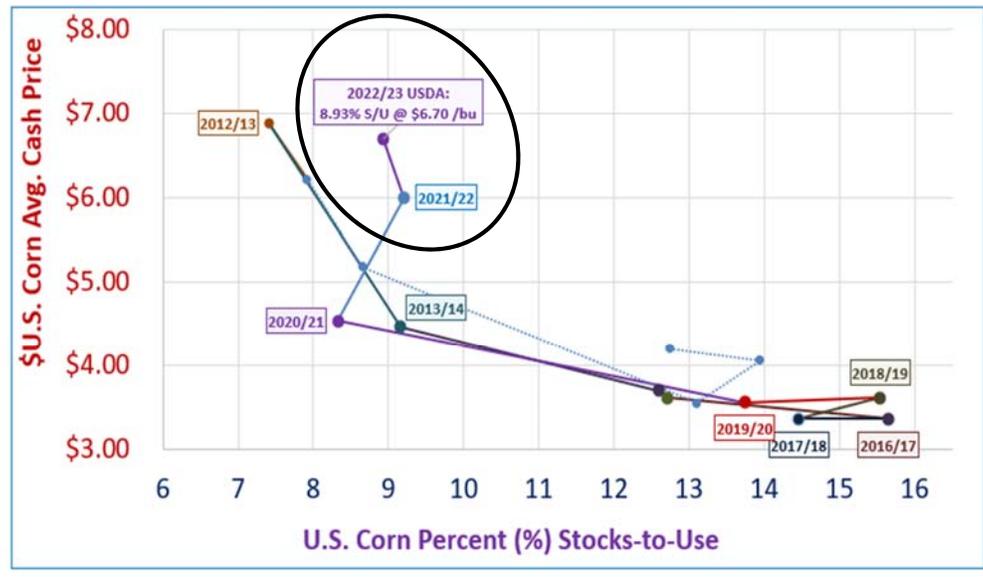
# U.S. Corn End Stocks & % Stocks-to-Use

MY 2012/13 thru "New Crop" MY 2023/24<sup>Est</sup> as of the January 12, 2023 USDA Reports



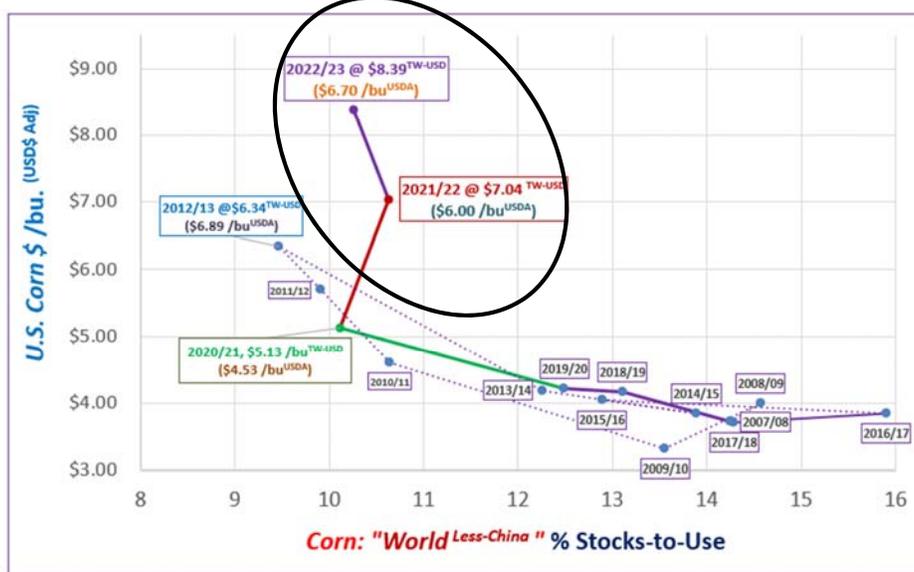
# U.S. Corn Price vs U.S. % Stocks-to-Use

MY 2007/08 - "Current" MY 2022/23 as of the January 12, 2023 USDA Reports



## U.S. Corn $\$USD\$ Adj.$ vs "World Less-China" % S/U

MY 2007/08 – "Current" MY 2022/23 as of the January 12, 2023 USDA WASDE Report



## 2023 Corn Cost-Return Budget in South Central Kansas

-----Average yields

| Item  | unit | price                         | quantity | amount   | Sub-total |
|---|------|-------------------------------|----------|----------|-----------|
| <b>INCOME</b>                                   |      |                               |          |          |           |
| Product   |      |                               |          |          |           |
| Corn - South Central KS                         | bu   | \$6.08                        | 110.00   | \$668.80 | \$668.80  |
| <b>--TOTAL INCOME--</b>                         |      |                               |          |          |           |
|   |      |                               |          |          | \$668.80  |
| <b>DIRECT EXPENSES</b>                          |      |                               |          |          |           |
| Additional labor                                |      |                               |          |          | \$0.00    |
| Crop insurance                                  |      |                               |          |          | \$0.75    |
| Custom Operations                               |      |                               |          |          | \$24.58   |
| Diesel  |      |                               |          |          | \$19.32   |
| Fertilizers                                     |      |                               |          |          | \$20.61   |
| Herbicides                                      |      |                               |          |          | \$130.53  |
| Miscellaneous                                   |      |                               |          |          | \$65.60   |
| Operator labor                                  |      |                               |          |          | \$7.26    |
| Repair & Maintenance                            |      |                               |          |          | \$6.08    |
| Seeds   |      |                               |          |          | \$16.89   |
| Interest on operating capital                   |      | 8% percent on direct expenses |          |          | \$65.45   |
| <b>--TOTAL DIRECT EXPENSES--</b>                |      |                               |          |          |           |
|   |      |                               |          |          | \$373.43  |
| <b>-----Total direct expenses per bu \$3.39</b> |      |                               |          |          |           |
| <b>FIXED EXPENSES</b>                           |      |                               |          |          |           |
| Cash rent                                       |      |                               |          |          | \$50.00   |
| Capital recovery (depreciation + interest)      |      |                               |          |          | \$62.51   |
| <b>--TOTAL FIXED EXPENSES--</b>                 |      |                               |          |          |           |
|   |      |                               |          |          | \$112.51  |
| <b>-----Total expenses per bu \$4.42</b>        |      |                               |          |          |           |
| <b>RETURNS ABOVE DIRECT EXPENSES</b>            |      |                               |          |          | \$295.37  |
| <b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b>   |      |                               |          |          | \$182.86  |

2023 Corn Costs  
South Central KS

Yield = 110 bu /ac

Total Direct Expenses  
= \$3.39 /bu

Total of ALL Expenses  
= \$4.42 /bu

# 2023 Irrigated Corn (center-pivot) Cost-Return Budget

## -----South Central Kansas (Average yields)

63

| Item  | unit | price                         | quantity | amount     | Sub-total  |
|---|------|-------------------------------|----------|------------|------------|
| <b>INCOME</b>                                 |      |                               |          |            |            |
| Product                                       |      |                               |          |            |            |
| Corn - South Central KS                       | bu   | \$6.08                        | 240.00   | \$1,459.20 | \$1,459.20 |
| <b>--TOTAL INCOME--</b>                       |      |                               |          |            | \$1,459.20 |
| <b>DIRECT EXPENSES</b>                        |      |                               |          |            |            |
| Additional labor                              |      |                               |          |            | \$0.00     |
| Crop insurance                                |      |                               |          |            | \$0.81     |
| Custom Operations                             |      |                               |          |            | \$17.53    |
| Diesel  |      |                               |          |            | \$29.76    |
| Fertilizers                                   |      |                               |          |            | \$22.91    |
| Herbicides                                    |      |                               |          |            | \$265.29   |
| Irrigation energy (NG)                        |      |                               |          |            | \$110.63   |
| Irrigation labor                              |      |                               |          |            | \$53.20    |
| Miscellaneous                                 |      |                               |          |            | \$8.10     |
| Operator labor                                |      |                               |          |            | \$12.10    |
| Repair & Maintenance                          |      |                               |          |            | \$8.39     |
| Seeds   |      |                               |          |            | \$23.50    |
| Interest on operating capital                 |      | 8% percent on direct expenses |          |            | \$133.02   |
| <b>--TOTAL DIRECT EXPENSES--</b>              |      |                               |          |            | \$712.66   |
| -----Total direct expenses per bu \$2.97      |      |                               |          |            |            |
| <b>FIXED EXPENSES</b>                         |      |                               |          |            |            |
| Cash rent                                     |      |                               |          |            | \$175.00   |
| Capital recovery (depreciation + interest)    |      |                               |          |            | \$251.62   |
| <b>--TOTAL FIXED EXPENSES--</b>               |      |                               |          |            | \$426.62   |
| -----Total expenses per bu \$4.75             |      |                               |          |            |            |
| <b>RETURNS ABOVE DIRECT EXPENSES</b>          |      |                               |          |            | \$746.54   |
| <b>RETURNS ABOVE TOTAL SPECIFIED EXPENSES</b> |      |                               |          |            | \$319.92   |

### 2023 Irrigated Corn South Central KS

Yield = 240 bu /ac

Total Direct Expenses  
= \$2.97 /bu

Total of ALL Expenses  
= \$4.75 /bu

13.5 acre-inches of water applied  
150 foot well depth  
\$ 3.94 fuel cost per acre-inch of water applied  
.4 Mcf of natural gas per acre-inch of water applied  
\$ 9.75 per Mcf for cost of natural gas  
5.46 Mcf of fuel used in total

# 2023 Preharvest Marketing Plan

64



**KANSAS STATE UNIVERSITY**

Department of Agricultural Economics

## Preharvest Marketing Plan



**Objective: Buy crop insurance to protect my production risk and price \_\_\_\_\_ % of my anticipated crop (based on APH yield) or \_\_\_\_\_ bushels.**

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ cash price (\$ \_\_\_\_\_ - \_\_\_\_\_ futures)  
(contract month) using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

Price \_\_\_\_\_ bushels at \$ \_\_\_\_\_ f/ \_\_\_\_\_ c, or by \_\_\_\_\_, 2023, using \_\_\_\_\_

**Plan starts on \_\_\_\_\_ . Completed by \_\_\_\_\_ .**

**Ignore decision dates and make no sale if prices are lower than \$ \_\_\_\_\_  
\_\_\_\_\_ (month/commodity) futures / \$ \_\_\_\_\_ local cash price.**

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## Sample Pre-Harvest Marketing Plan



66

**Objective: Buy crop insurance to protect production risk and price 75% of our 67,000-bushel APH (50,000 bu.).**

Using five, Increments

Price 10,000 bushels at \$4.30 December futures/\$4.15 cash  
or by April 15

Price 10,000 bushels at \$4.50 fut./4.35 cash, or by May 15

Price 10,000 bushels at \$4.60 fut./4.45 cash, or by Jun 15

Price 10,000 bushels at \$4.75 fut./4.60 cash, or by Jul 15

Price 10,000 bushels at \$5.00 fut./4.85 cash, or by Aug 15

Plan starts on January 1, 2023.

Ignore decision dates and make no sale if prices are lower than  
**\$4.00 local cash price.**

Exit all options positions by October 1



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## What Would YOU Change?

50% is Plenty!

Objective: Buy crop insurance to protect production risk and price 75% of our 67,000-bushel APH (50,000 bu.).

### Using five increments

Price 10,000 bushels at \$4.30 December futures/\$4.15 cash or by April 15

Price 10,000 bushels at \$4.50 fut./4.35 cash, or by May 15

Price 10,000 bushels at \$4.60 fut./4.45 cash, or by Jun 15

Price 10,000 bushels at \$4.75 fut./4.60 cash, or by Jul 15

Price 10,000 bushels at \$5.00 fut./4.85 cash, or by Aug 15

Plan starts on January 1, 2022.

Ignore decision dates and make no sale if prices are lower than \$4.00 local cash price.

Exit all options positions by October 1

**Different prices, increments, dates?**

**What's Your Price Outlook?**



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## ✓ What's a Realistic Max Price Target?

Let's start with the seasonals

Preharvest: On average, 25% of KS corn is harvested by the last week of September; and 25% of KS milo by mid-October.

| Fifteen Years: CME December Corn Futures |             |                      |        |                |
|--|-------------|----------------------|--------|----------------|
| 2008/22                                  | Jan 1 Price | Preharvest Max Price | Change | Percent Change |
| 2008                                     | \$4.80      | \$7.88               | \$3.08 | 64%            |
| 2009                                     | \$4.56      | \$4.73               | \$0.17 | 4%             |
| 2010                                     | \$4.45      | \$5.22               | \$0.77 | 17%            |
| 2011                                     | \$5.53      | \$7.75               | \$2.23 | 40%            |
| 2012                                     | \$5.90      | \$8.39               | \$2.49 | 42%            |
| 2013                                     | \$5.92      | \$5.94               | \$0.01 | 0%             |
| 2014                                     | \$4.48      | \$5.13               | \$0.65 | 14%            |
| 2015                                     | \$4.20      | \$4.52               | \$0.32 | 8%             |
| 2016                                     | \$3.77      | \$4.49               | \$0.72 | 19%            |
| 2017                                     | \$3.84      | \$4.15               | \$0.31 | 8%             |
| 2018                                     | \$3.87      | \$4.27               | \$0.40 | 10%            |
| 2019                                     | \$3.98      | \$4.69               | \$0.70 | 18%            |
| 2020                                     | \$4.05      | \$4.05               | \$0.00 | 0%             |
| 2021                                     | \$4.35      | \$6.37               | \$2.02 | 46%            |
| 2022                                     | \$5.48      | \$7.66               | \$2.18 | 40%            |



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|      |        |        |        |    |
|------|--------|--------|--------|----|
| 2023 | \$6.07 | \$6.07 | \$0.00 | 0% |
|------|--------|--------|--------|----|

Let's put'em in order of "Change"

Fifteen Years: CME December Corn Futures

|  | 2008/22 | Jan 1 Price | Preharvest Max Price | Change | Percent Change |
|--|---------|-------------|----------------------|--------|----------------|
| 33% of the time; prices rise \$2.00 or more (>40%) | 2008    | \$4.80      | \$7.88               | \$3.08 | 64%            |
|  | 2012    | \$5.90      | \$8.39               | \$2.49 | 42%            |
|  | 2011    | \$5.53      | \$7.75               | \$2.23 | 40%            |
|  | 2022    | \$5.48      | \$7.66               | \$2.18 | 40%            |
|  | 2021    | \$4.35      | \$6.37               | \$2.02 | 46%            |
| 67% of the time; prices rise \$0.40 or more (>10%) | 2010    | \$4.45      | \$5.22               | \$0.77 | 17%            |
|  | 2016    | \$3.77      | \$4.49               | \$0.72 | 19%            |
|  | 2019    | \$3.98      | \$4.69               | \$0.70 | 18%            |
|  | 2014    | \$4.48      | \$5.13               | \$0.65 | 14%            |
|  | 2018    | \$3.87      | \$4.27               | \$0.40 | 10%            |
| 87% of the time; prices rise \$0.17 or MORE        | 2015    | \$4.20      | \$4.52               | \$0.32 | 8%             |
|  | 2017    | \$3.84      | \$4.15               | \$0.31 | 8%             |
|  | 2009    | \$4.56      | \$4.73               | \$0.17 | 4%             |
| 13% of the time; there was no change               | 2013    | \$5.92      | \$5.94               | \$0.01 | 0%             |
|  | 2020    | \$4.05      | \$4.05               | \$0.00 | 0%             |



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Preharvest Marketing Plan



Objective: Buy crop insurance to protect my production risk and price 50 % of my anticipated crop (based on APH yield) or 60,000 bushels.

Price 5,000 bushels at \$ \$5.90 cash price (\$ \_\_\_\_\_ - DEC 2023 futures) (contract month) using FC, Hedge, Basis Contract

Price 5,000 bushels at \$ \$6.15 f/ \$6.00 c, or by 3/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.40 f/ \$6.25 c, or by 4/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.65 f/ \$6.50 c, or by 5/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.90 f/ \$6.75 c, or by 6/1/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$7.15 f/ \$7.00 c, or by 6/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$7.40 f/ \$7.25 c, or by 7/15/23 2023, using FC, Hedge, Basis Contract

Plan starts on February 1, 2023 . Completed by July 15, 2023 .

Ignore decision dates and make no sale if prices are lower than \$ \$5.00 Cost of Prodn. \$ ??? (month/commodity) futures / \$ \$ ??? local cash price.

# Sample Pre-Harvest Corn Marketing Plan



Objective: Buy up crop insurance coverage to 80% to protect production risk; and preharvest price 80% of APH.

Using five increments

- Price 20% at \$6.10 December futures, or by March 15
- Price 20% at \$6.30 December futures, or by April 15
- Price 20% at \$6.90 December futures, or by May 15
- Price 30% at \$7.50 December futures, or by June 15
- Price 10% at \$8.25 December futures, or by July 15

Ignore decision dates and make no sale if prices are lower than **\$5.50 local cash price**.

Exit all options positions prior to Harvest



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## Preharvest Marketing Plan



Objective: Buy crop insurance to protect my production risk and price 50 % of my anticipated crop (based on APH yield) or 60,000 bushels.

Price 5,000 bushels at \$ \$5.90 cash price (\$ \_\_\_\_\_ - DEC 2023 futures) using FC, Hedge, Basis Contract

Price 5,000 bushels at \$ \$6.15 f/ \$6.00 c, or by 3/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.40 f/ \$6.25 c, or by 4/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.65 f/ \$6.50 c, or by 5/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$6.90 f/ \$6.75 c, or by 6/1/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$7.15 f/ \$7.00 c, or by 6/15/23 2023, using FC, Hedge, Basis Contract

Price 10,000 bushels at \$ \$7.40 f/ \$7.25 c, or by 7/15/23 2023, using FC, Hedge, Basis Contract

Plan starts on February 1, 2023 . Completed by July 15, 2023 .

Ignore decision dates and make no sale if prices are lower than \$ \$5.00 Cost of Prodn. \$ ??? (month/commodity) futures / \$ \$ ??? local cash price.

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# Questions?

**Daniel O'Brien – Extension Ag Economist**

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**KANSAS STATE**  
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