

# Corn Market Outlook & Strategies for 2018

Kansas Corn School

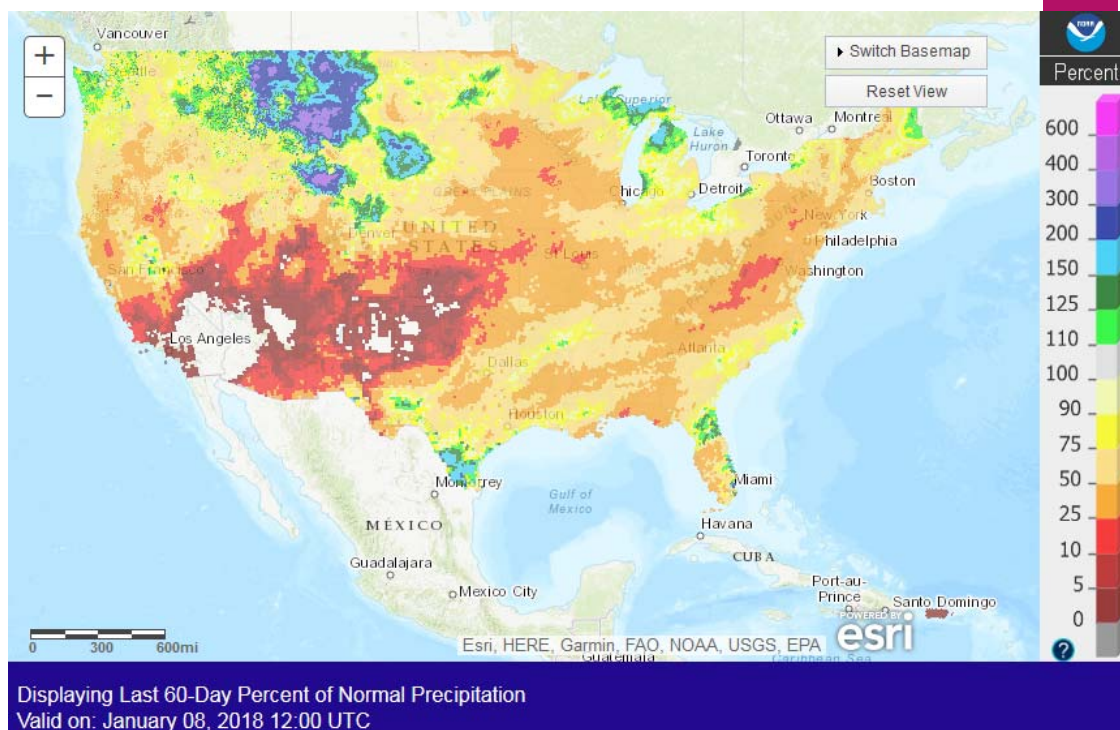
Garden City, Kansas

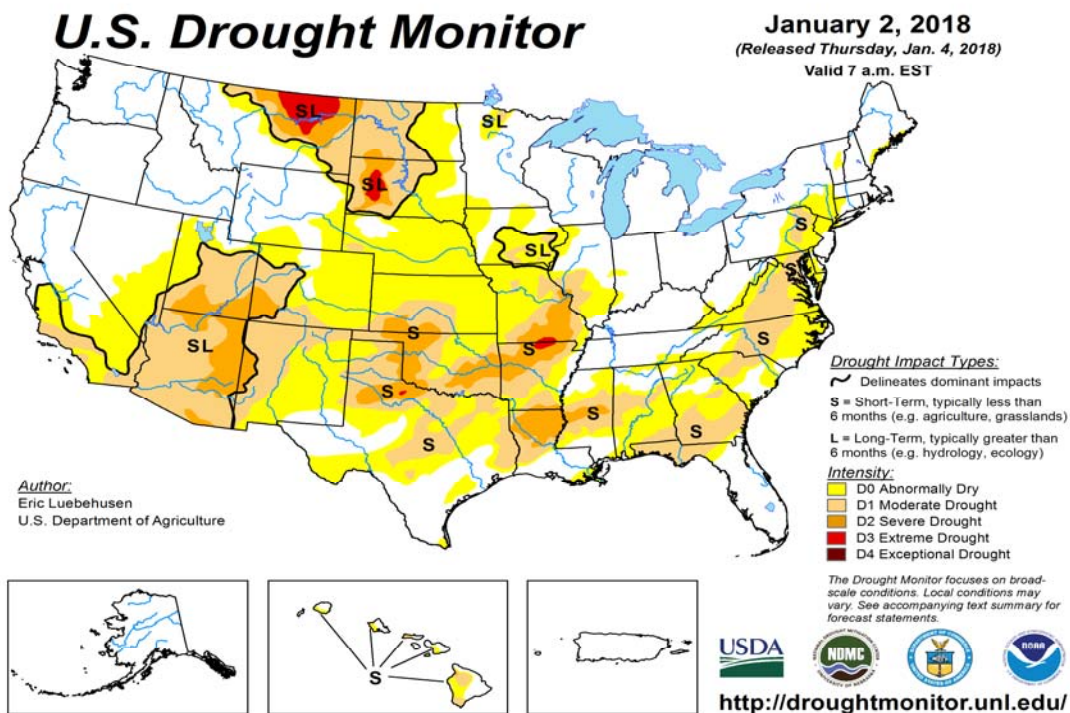
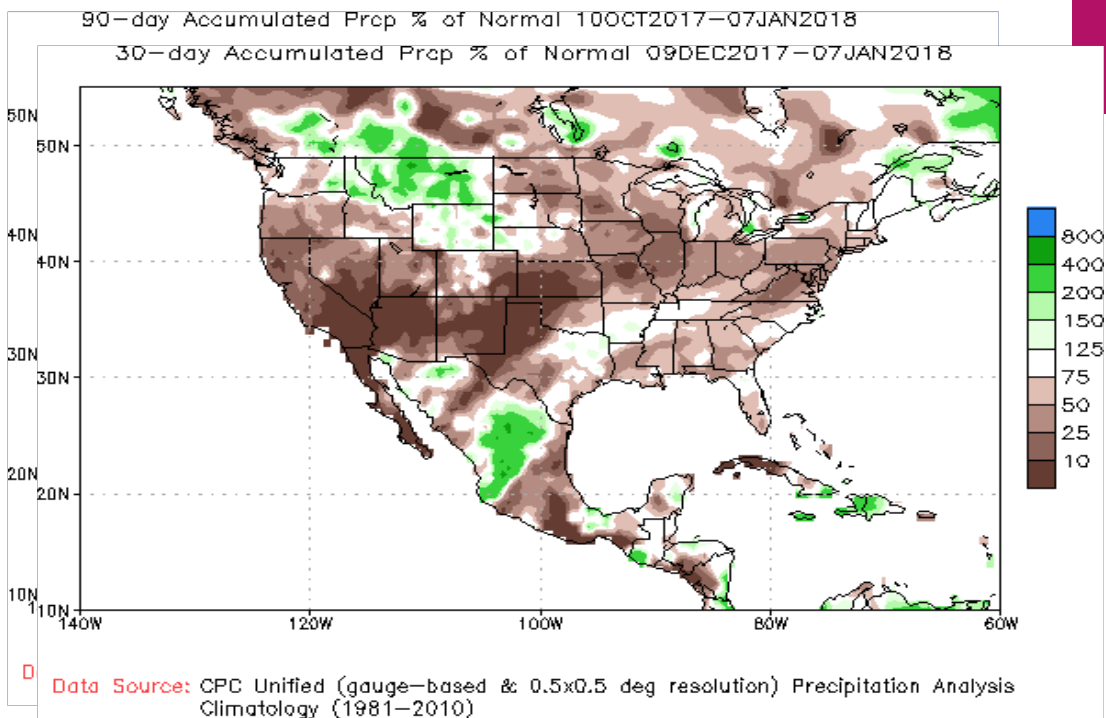
DANIEL O'BRIEN

EXTENSION AGRICULTURAL ECONOMIST

**KANSAS STATE**  
UNIVERSITY

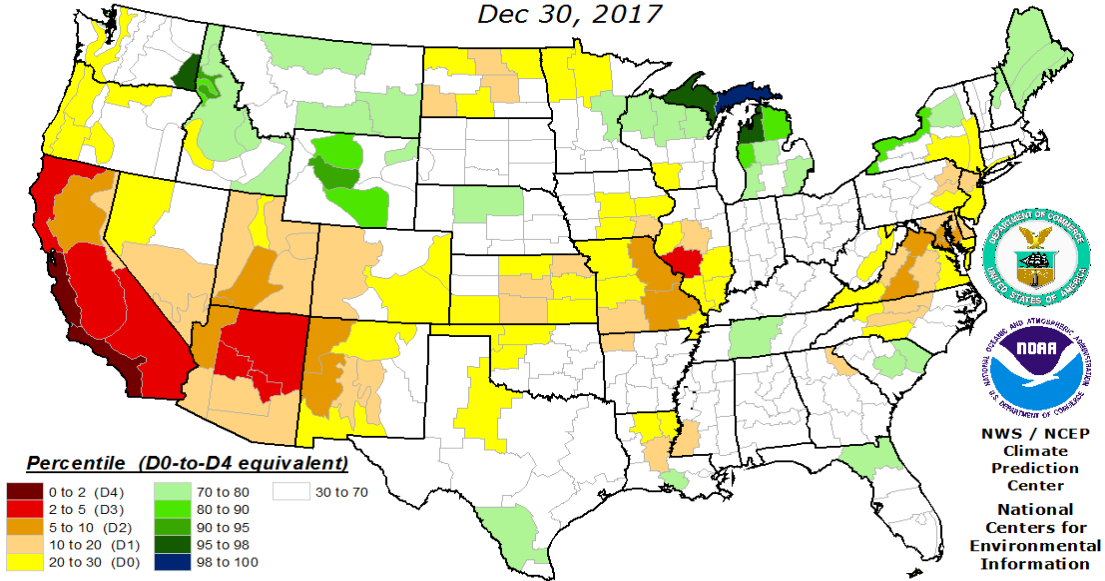
Department of Agricultural Economics





## Objective *Short-Term* Drought Indicator Blend Percentiles

Dec 30, 2017



This map approximates impacts that respond to precipitation over several days to a few months, such as agriculture, topsoil moisture, unregulated streamflows, and most aspects of wildfire danger. The relationship between indicators and impacts can vary significantly with location and season. Do not interpret this map too literally.

This map is based on preliminary climate division data. Local conditions and/or final data may differ. See the detailed product suite description for more details.

# Corn Markets



**KANSAS STATE  
UNIVERSITY**

Department of Agricultural Economics

## U.S. Corn Supply-Use

- Prospects ➔ "**LARGE**" 14.6 billion bu 2017 U.S. Corn Crop
- Large Supplies & Stocks are limiting Feedgrain Price\$'s
- Low Price\$'s are supporting Corn Use
  - **Livestock Feed** <sup>2017/18</sup> = 5.575 bln bu (*10 year high* – vs 5.858 bb in 2007/08)
  - **Ethanol** <sup>2017/18</sup> = 5.525 bln bu (*Record high* – vs 5.439 bb last year)
  - **Other FSI** <sup>2017/18</sup> = 1.460 bln bu (*Record high* – vs 1.452 bb in 2016/17)
  - **Exports** <sup>2017/18</sup> = 1.925 bln bu (*vs 2.293 bb in '16/17 & 1.901 in '15/16*)

## U.S. Corn Stocks & % Stocks/Use

- Corn: "**Large**" Stocks & % Stx/Use
  - **End Stocks** <sup>2017/18</sup> ⇒ 2.437 bln bu (*2<sup>nd</sup> highest since 1987/88*)
  - **% Stocks/Use** <sup>2017/18</sup> ⇒ 16.8% S/U (*Highest since 2005/06*)



# CME Corn Futures



Weekly Chart: November 2008 – December 2017 + 1/7/2018

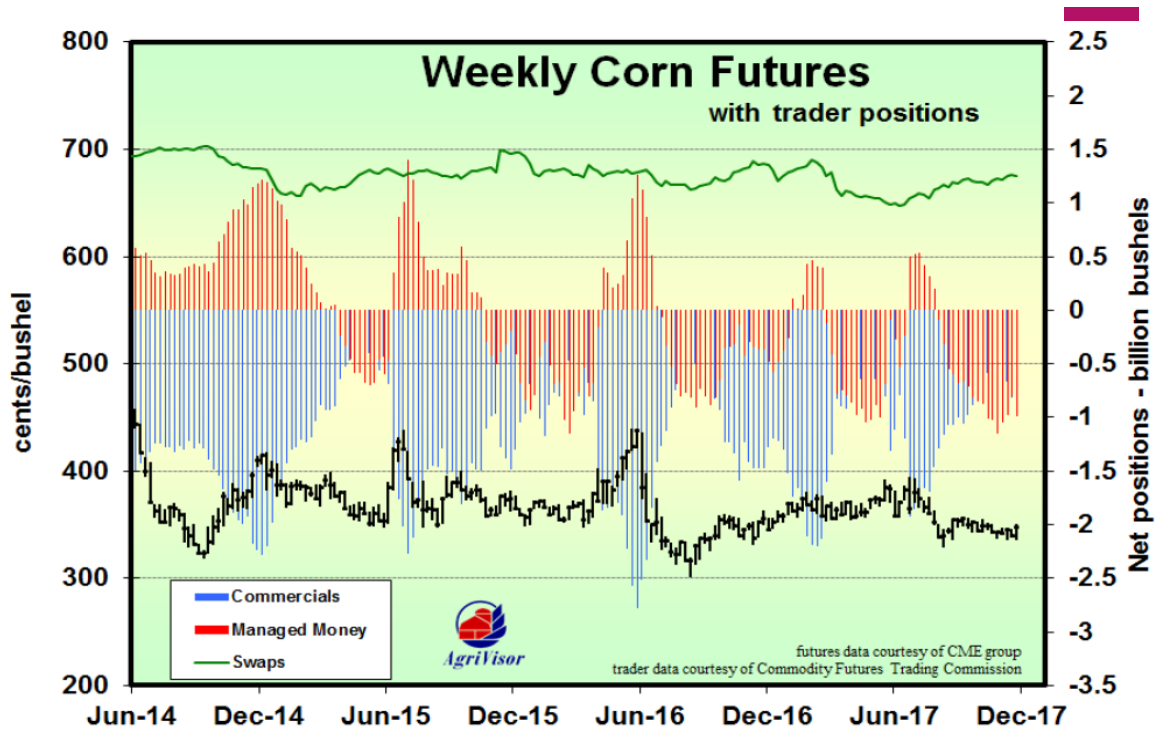


# CME Corn Futures



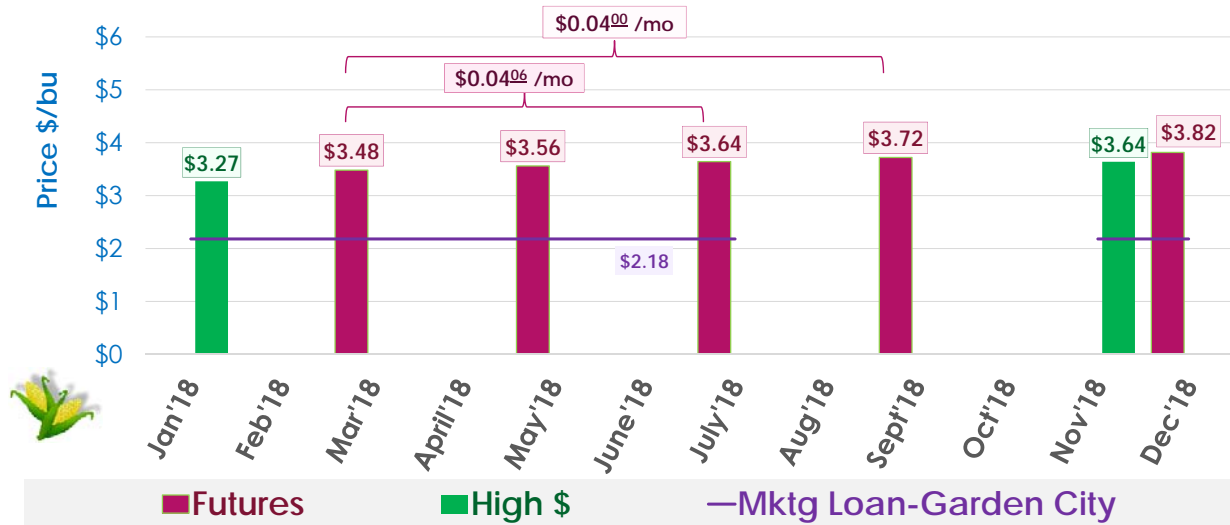
Weekly Chart: November 2008 – December 2017 + 1/7/2018





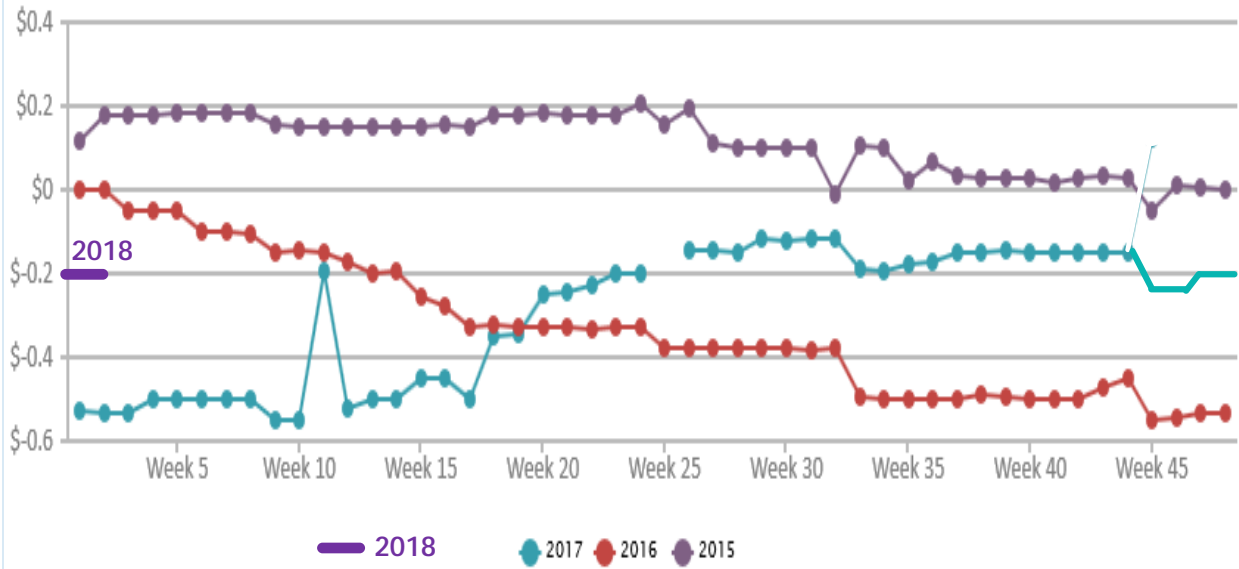
## Corn Cash & Futures Prices (\$/bu)

Garden City, KS Local Elevators – January 7, 2018



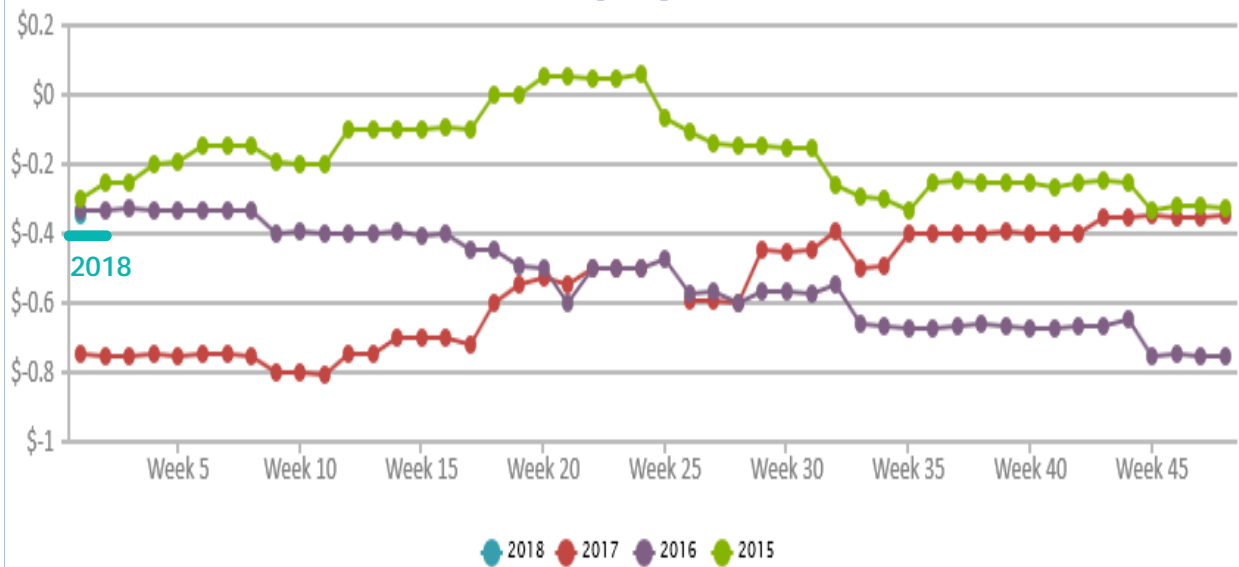
## GARDEN CITY, KS: Corn Basis - GARDEN CITY COOP

www.AgManager.info



## HAYS, KS: Corn Basis - MIDLAND MARKETING

www.AgManager.info

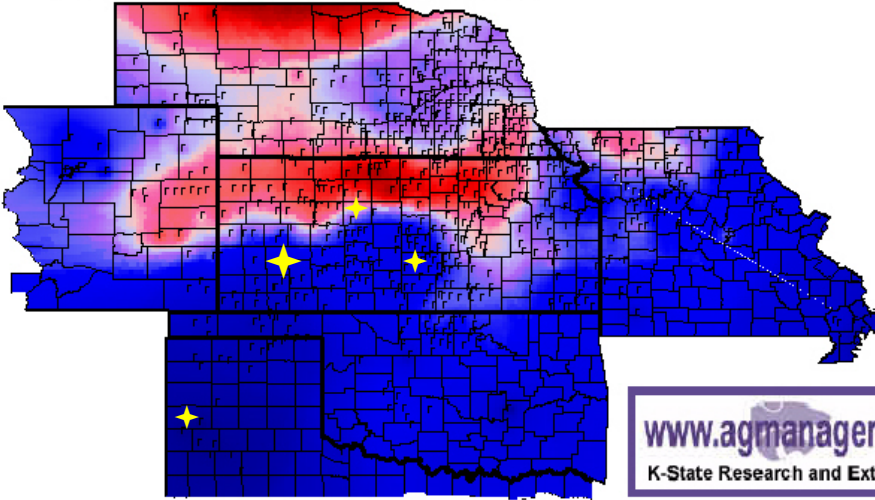


## Corn Basis, 01-03-2018

Basis = Cash Price - Nearby Futures Price

CBT Mar  
Futures  
Price: \$3.53

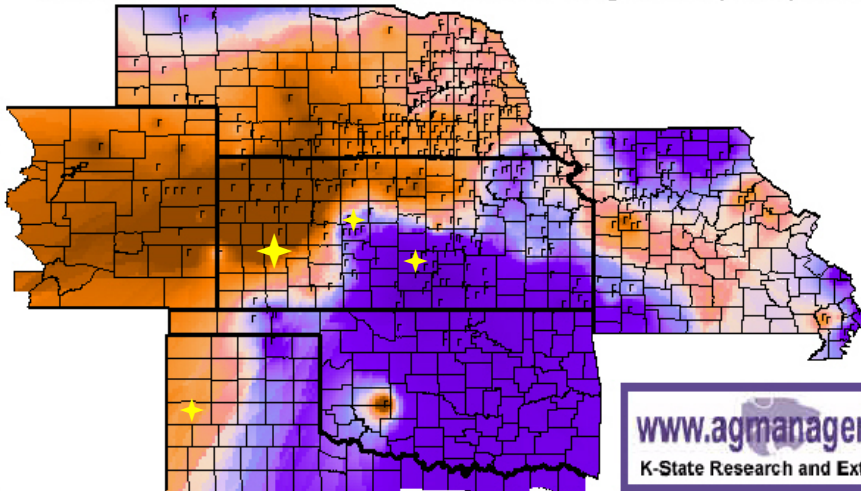
\$/Bushel



## Corn Basis Deviation, 01-03-2018

Basis Deviation = Current Basis - 3 Year Average Basis (2015, 2016, 2017)

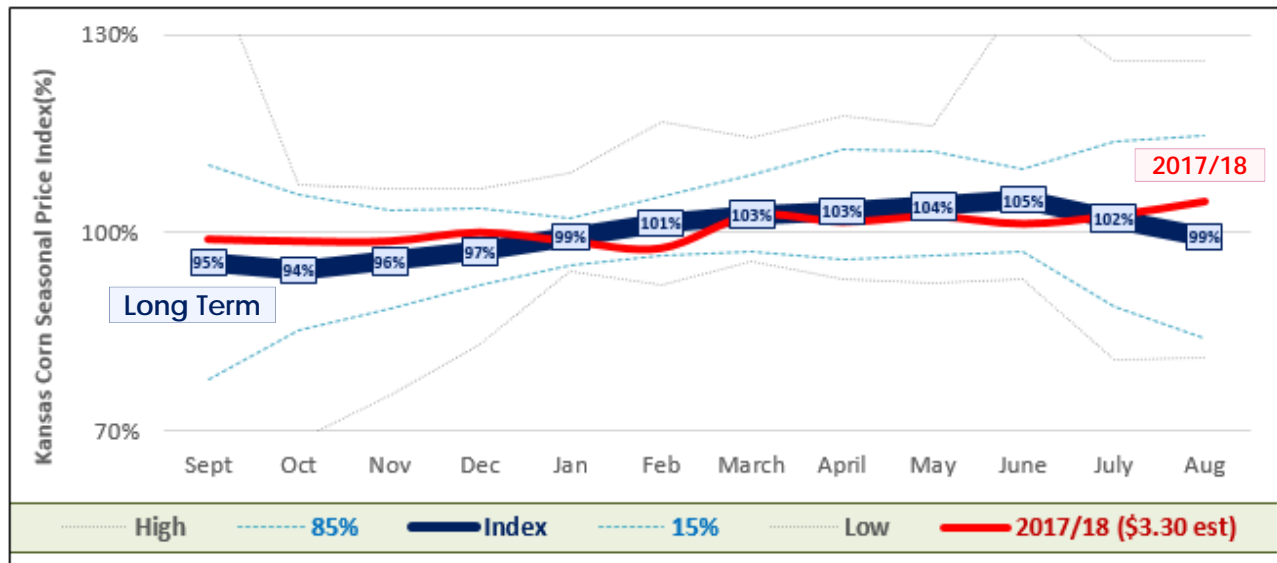
\$/Bushel





# Kansas Corn Seasonal Cash \$ Index

Monthly: Long Term Average & "New Crop" MY 2017/18 Forecast

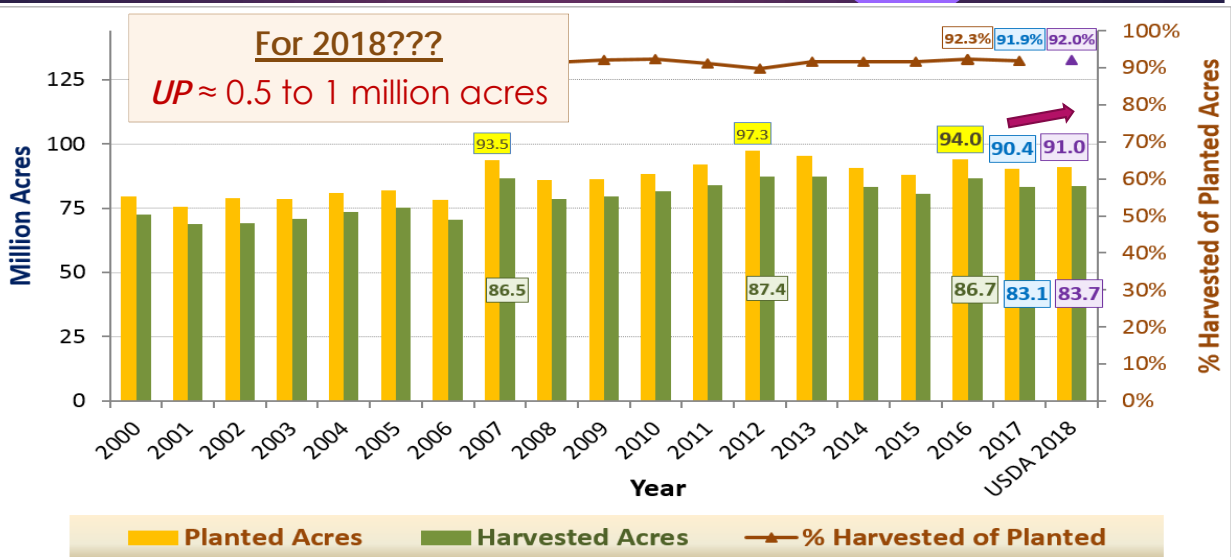


## U.S. Corn Supply and Demand

|                                | 2016/17<br>estimate | 2017/18<br>forecast | Change<br>from<br>November 9 | Change from<br>2016/17 |                                     |
|--------------------------------|---------------------|---------------------|------------------------------|------------------------|-------------------------------------|
| Planted area (million acres)   | 94.0                | 90.4                | --                           | -3.6                   | ↓ Crop<br>BUT still<br>Large Supply |
| Harvested area (million acres) | 86.7                | 83.1                | --                           | -3.6                   |                                     |
| Yield (bushels per acre)       | 174.6               | 175.4               | --                           | 0.8                    |                                     |
| <i>Million bushels</i>         |                     |                     |                              |                        |                                     |
| Beginning stocks               | 1,737               | 2,295               | --                           | 558                    | ↑ Domestic Use<br>&<br>↓ Exports    |
| Production                     | 15,148              | 14,578              | --                           | -571                   |                                     |
| Imports                        | 57                  | 50                  | --                           | -7                     |                                     |
| Total supply                   | 16,942              | 16,922              | --                           | -20                    |                                     |
| Feed and residual              | 5,463               | 5,575               | --                           | 112                    | ↑ % Stocks/Use<br>&<br>↓ Prices     |
| Food, seed, and industrial     | 6,891               | 6,985               | 50                           | 94                     |                                     |
| Ethanol                        | 5,439               | 5,525               | 50                           | 86                     |                                     |
| Domestic use                   | 12,354              | 12,560              | 50                           | 206                    |                                     |
| Exports                        | 2,293               | 1,925               | --                           | -368                   |                                     |
| Total use                      | 14,647              | 14,485              | 50                           | -162                   |                                     |
| Ending stocks                  | 2,295               | 2,437               | -50                          | 143                    |                                     |
| <i>Percent</i>                 |                     |                     |                              |                        |                                     |
| Stocks to use ratio            | 15.7                | 16.8                | -0.4                         | 1.2                    |                                     |
| <i>Dollars per bushel</i>      |                     |                     |                              |                        |                                     |
| Average market price           | 3.36                | 2.85/3.55           | --                           | -0.16                  |                                     |



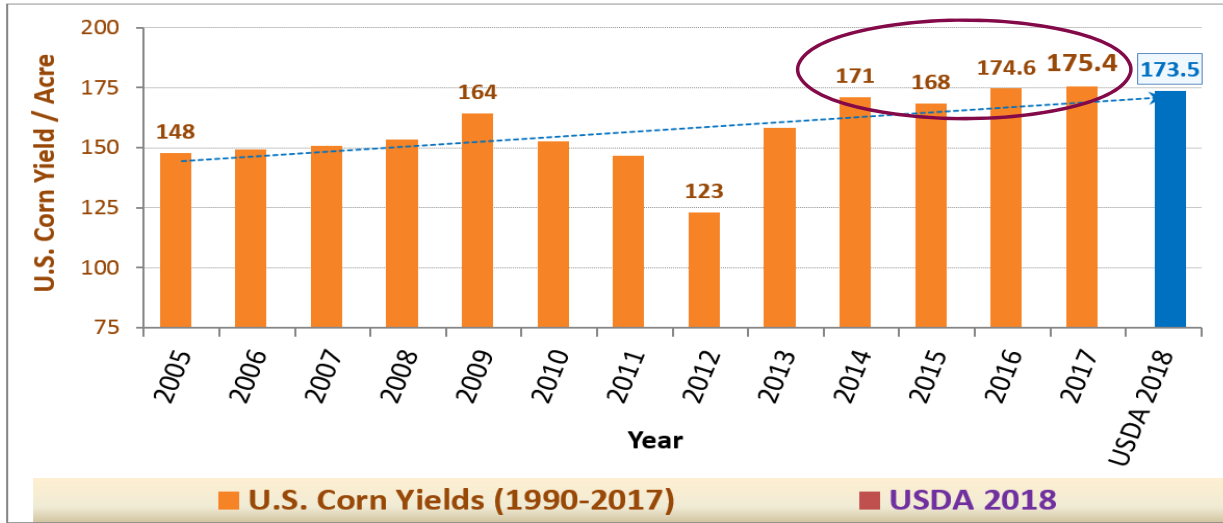
# U.S. Corn Acreage



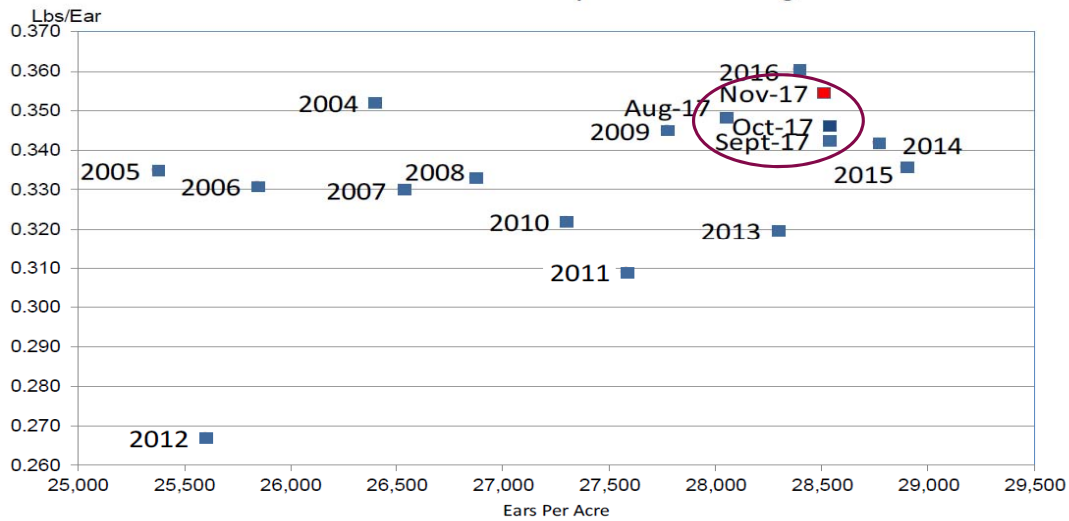
# U.S. Corn Yields

USDA 2017 USDA Forecast = 175.4 bu/ac

**Final 2017???**  
*Q? Is >175 bu/ac possible?*



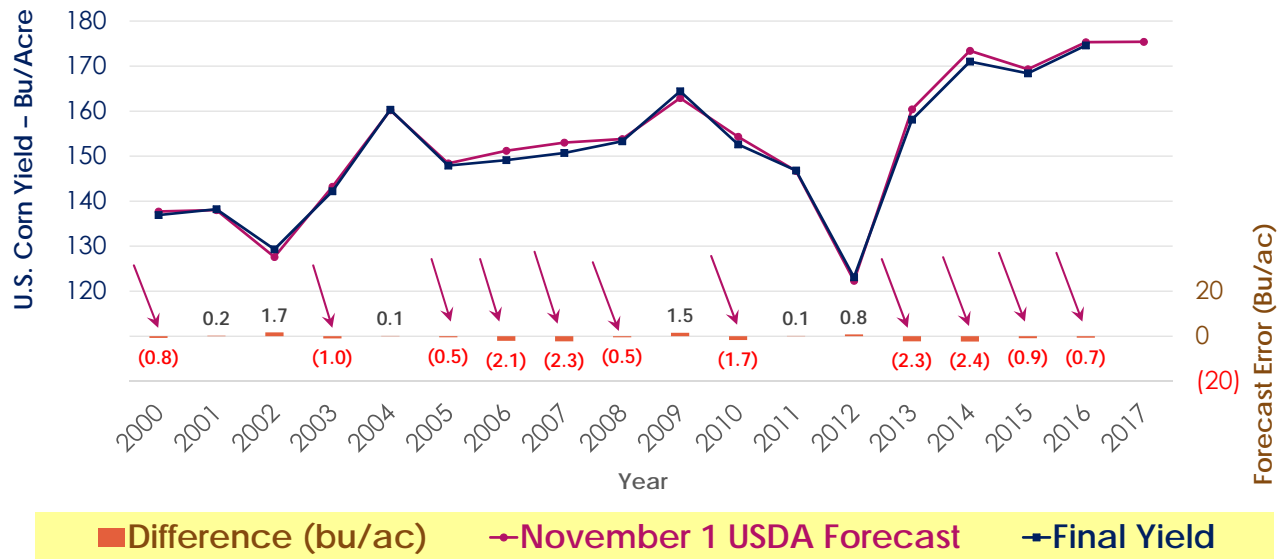
## Corn Objective Yield Region Ears Per Acre vs. Implied Ear Weight



Implied Ear Weight = (Published Yield \* 56) / Ears

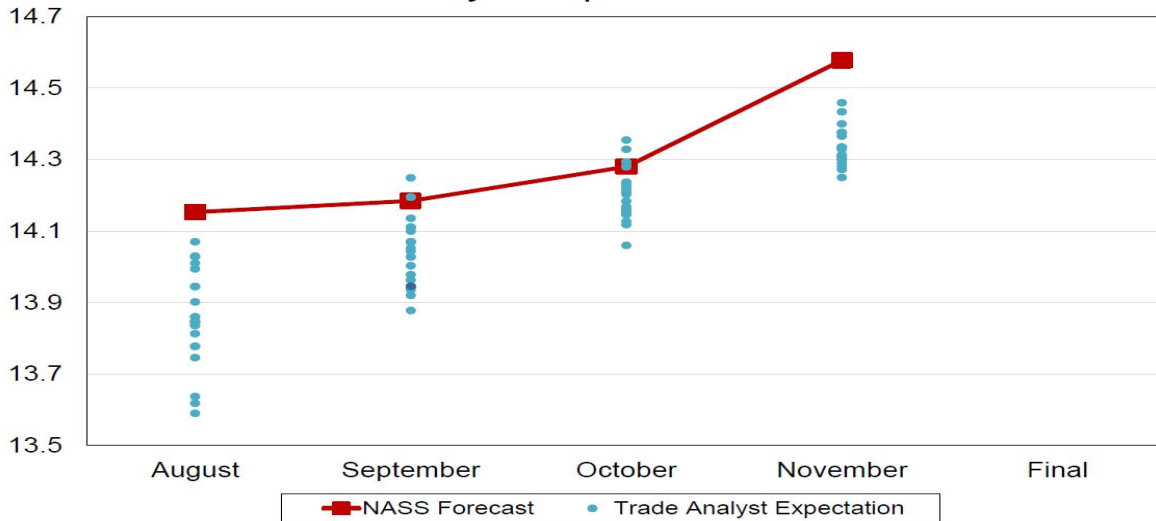
# U.S. Corn Yields: 2000-2017

## Accuracy of November 1<sup>st</sup> USDA Forecasts

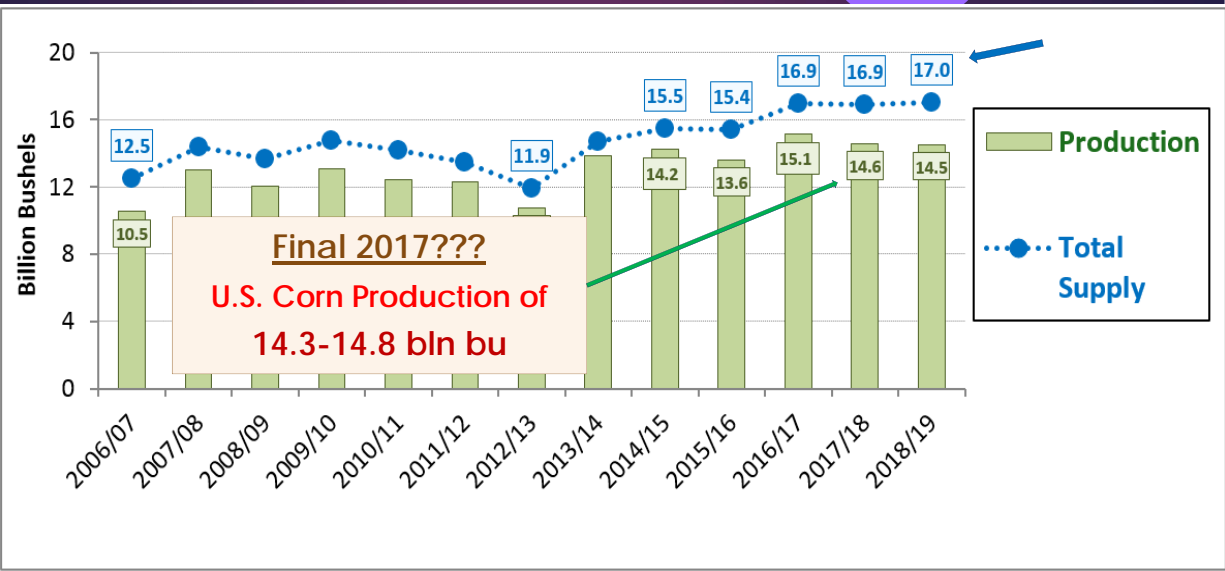


Billion Bushels

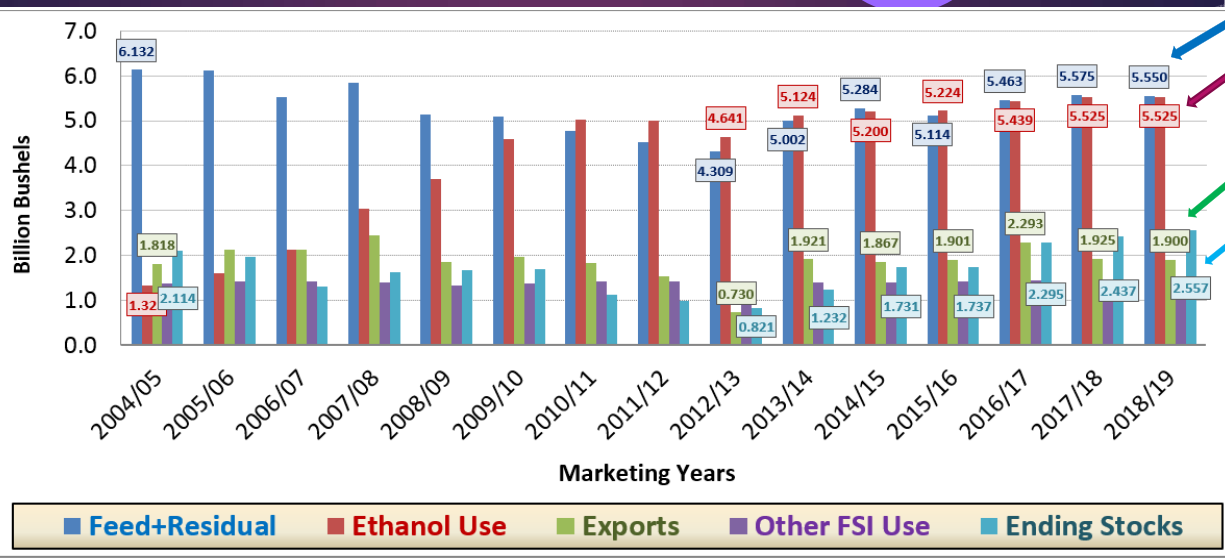
## 2017 United States Corn Production Trade Analyst Expectations vs NASS



# U.S. Corn Production & Supplies



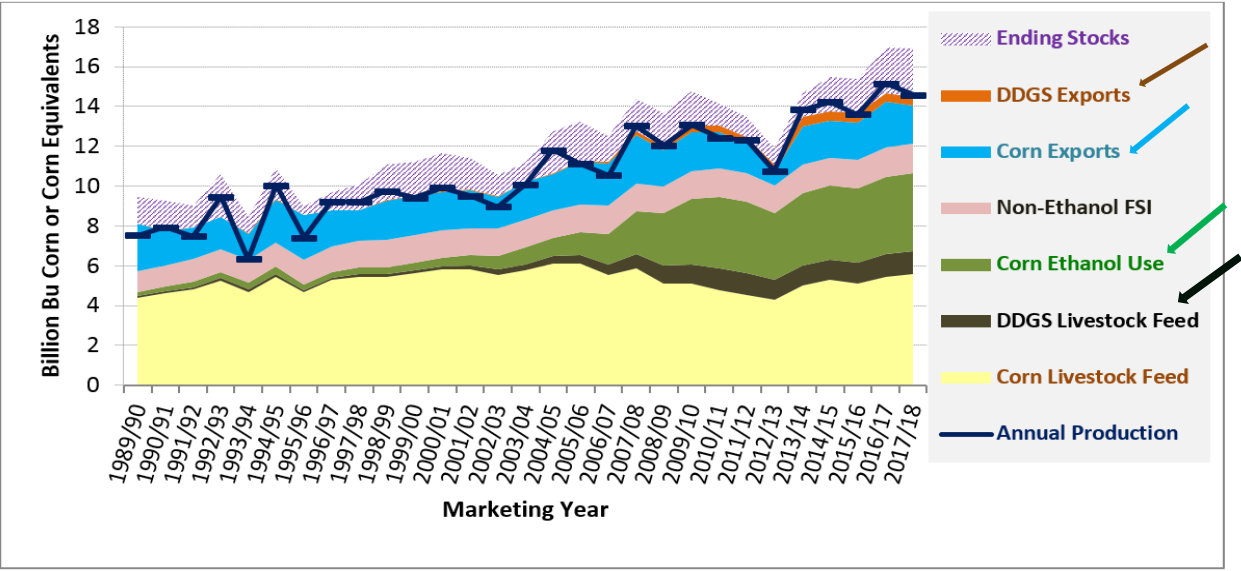
# U.S. Corn Use – By Category







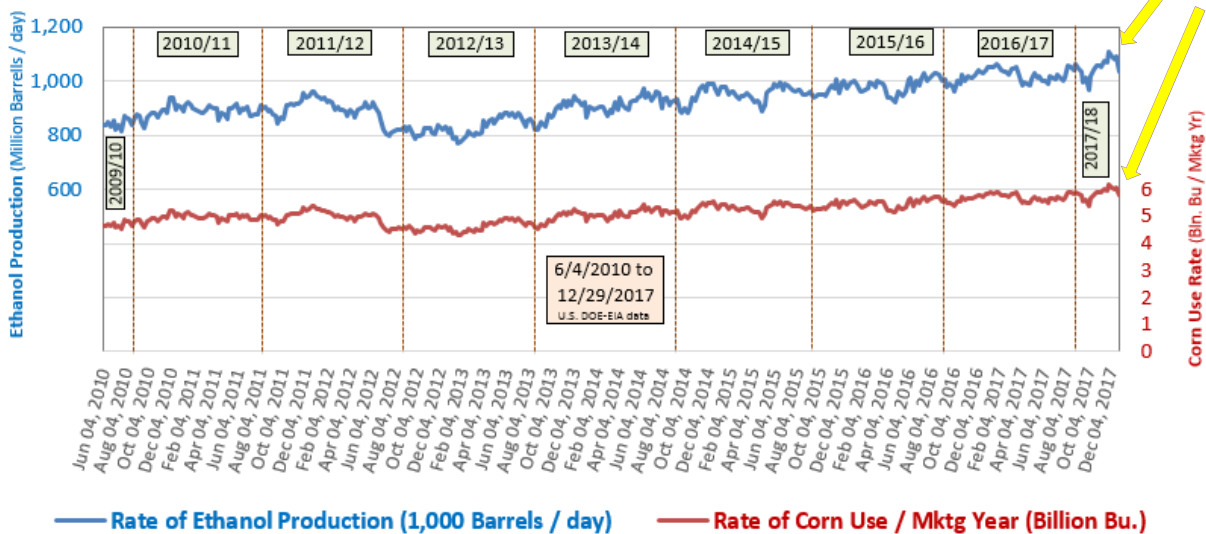
# U.S. Corn Use - By Category



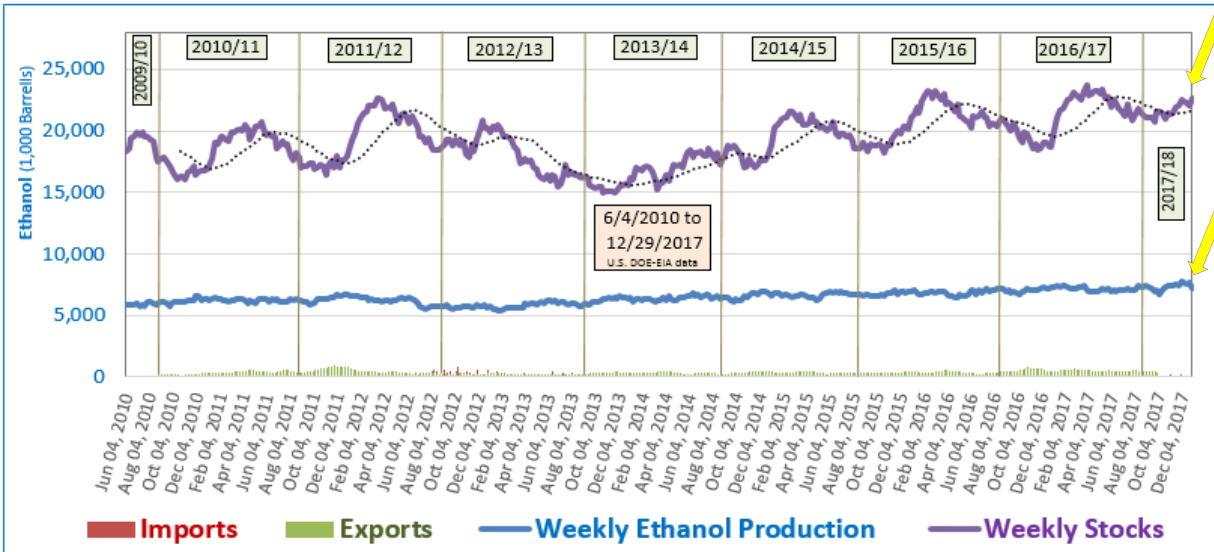
# U.S. Meat Production and Prices

|                   | 2017<br>forecast      | 2018<br>forecast | 2018<br>Change from<br>November 9 | Change from<br>2017 |                           |
|-------------------|-----------------------|------------------|-----------------------------------|---------------------|---------------------------|
| <b>Production</b> |                       |                  |                                   |                     |                           |
|                   | <i>Billion pounds</i> |                  |                                   |                     |                           |
| Beef              | 26.30                 | 27.59            | -0.03                             | 1.29                | +4.9%                     |
| Pork              | 25.56                 | 26.92            | -0.01                             | 1.36                | +5.3%                     |
| Broilers          | 41.54                 | 42.28            | --                                | 0.73                | +1.8%                     |
| Turkey            | 6.00                  | 6.03             | --                                | 0.03                | +0.5%                     |
| <b>Total meat</b> | <b>100.16</b>         | <b>103.57</b>    | <b>-0.04</b>                      | <b>3.42</b>         | <b>+3.4%</b>              |
| <b>Prices</b>     |                       |                  |                                   |                     |                           |
|                   | <i>Dollars/cwt</i>    |                  |                                   |                     |                           |
| Steers            | 121.42                | 117.25           | --                                | -4.17               | } Prices<br>to<br>decline |
| Hogs              | 50.38                 | 47.50            | 2.50                              | -2.88               |                           |
|                   | <i>Cents/lb</i>       |                  |                                   |                     |                           |
| Broilers          | 93.4                  | 88.5             | --                                | -4.9                |                           |
| Turkey            | 95.7                  | 96.3             | -3.0                              | 0.5                 |                           |

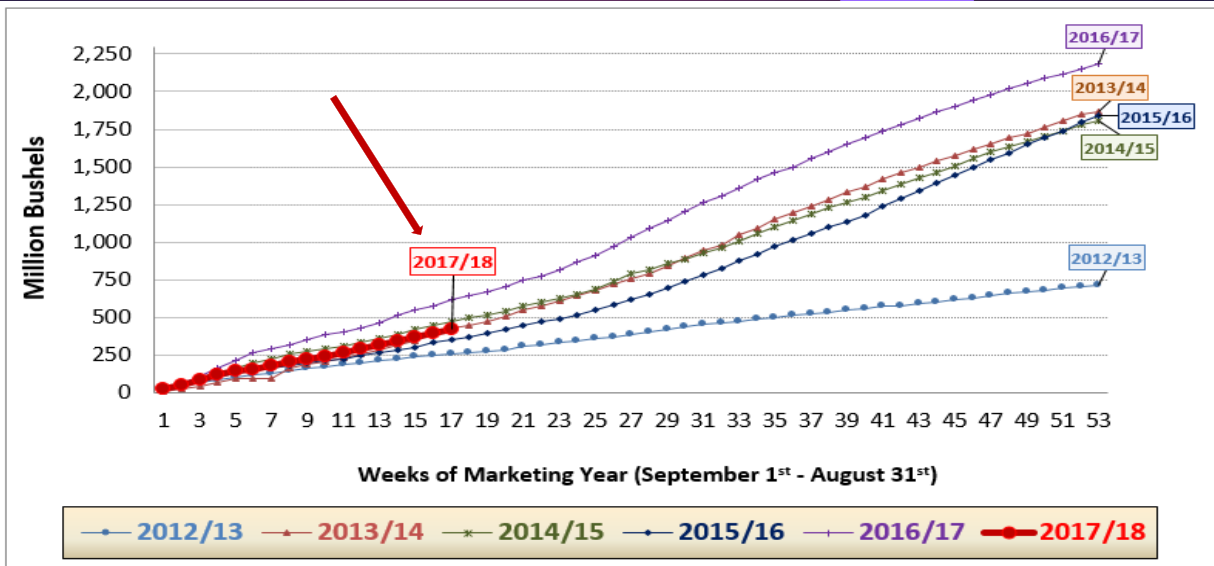
## U.S. Corn Ethanol Use - Weekly thru Dec. 29, 2017



# U.S. Ethanol Prodn, Stocks, & Trade - Thru 12/29/17

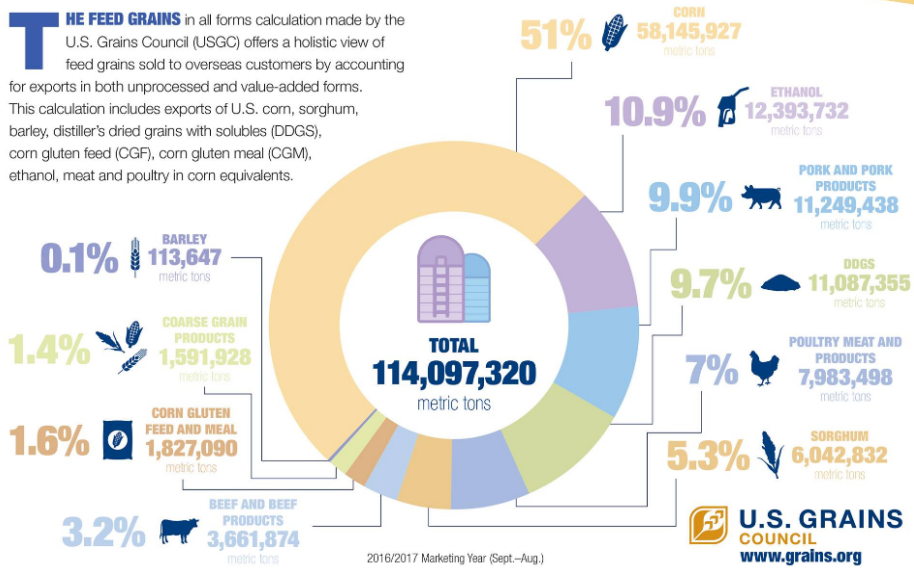


# U.S. Corn Exports - Weekly thru December 28, 2017

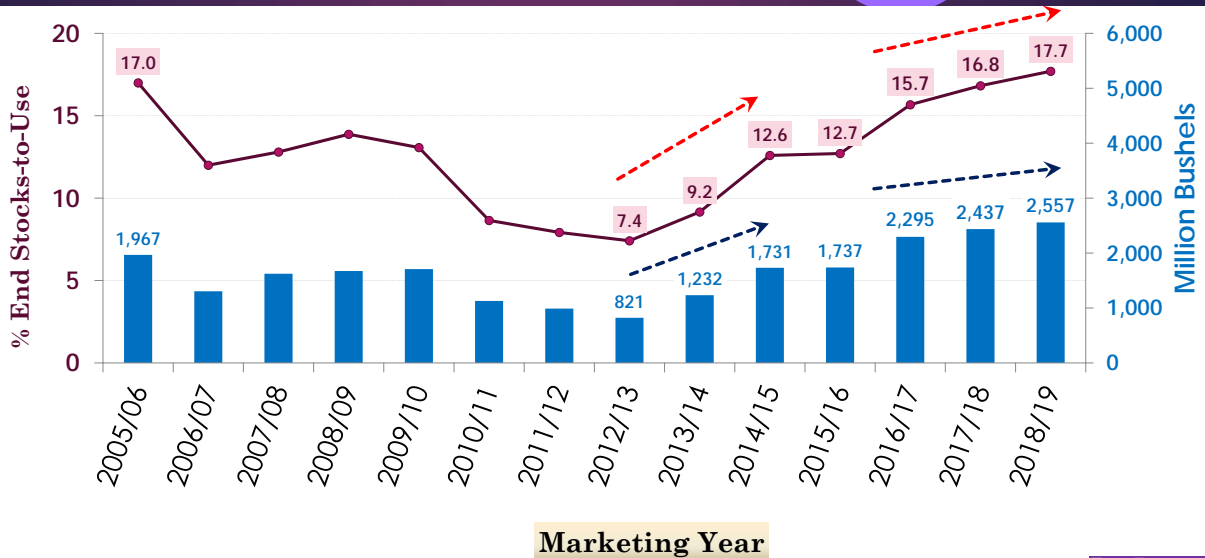


# How US Grain Was Exported in 2016/2017

**T**HE FEED GRAINS in all forms calculation made by the U.S. Grains Council (USGC) offers a holistic view of feed grains sold to overseas customers by accounting for exports in both unprocessed and value-added forms. This calculation includes exports of U.S. corn, sorghum, barley, distiller's dried grains with solubles (DDGS), corn gluten feed (CGF), corn gluten meal (CGM), ethanol, meat and poultry in corn equivalents.



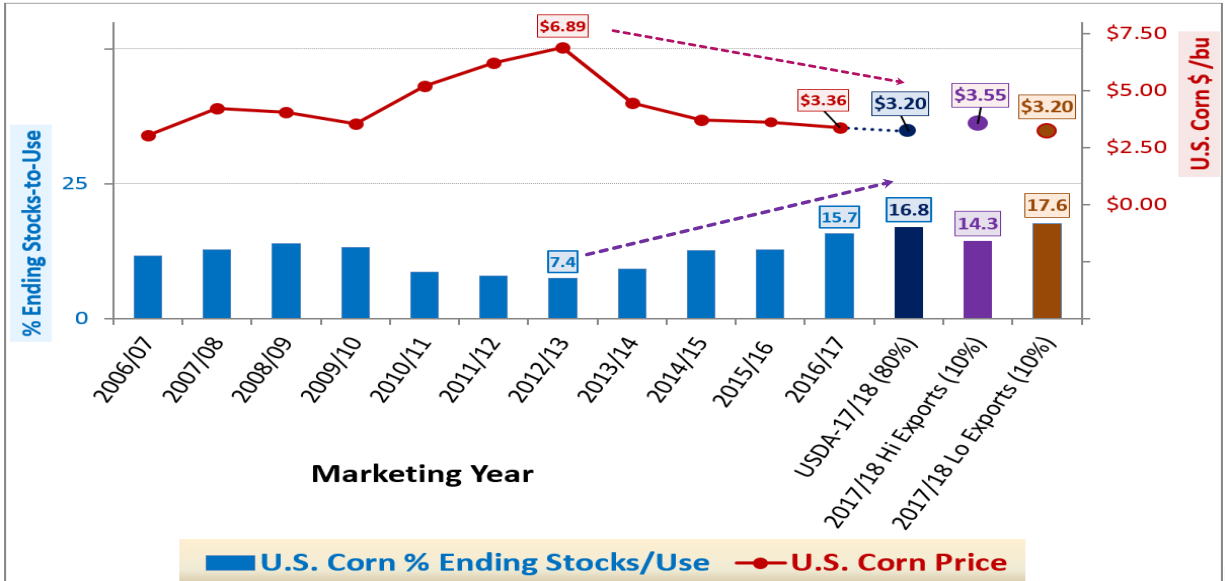
## U.S. Corn Ending Stocks & % Stx/Use





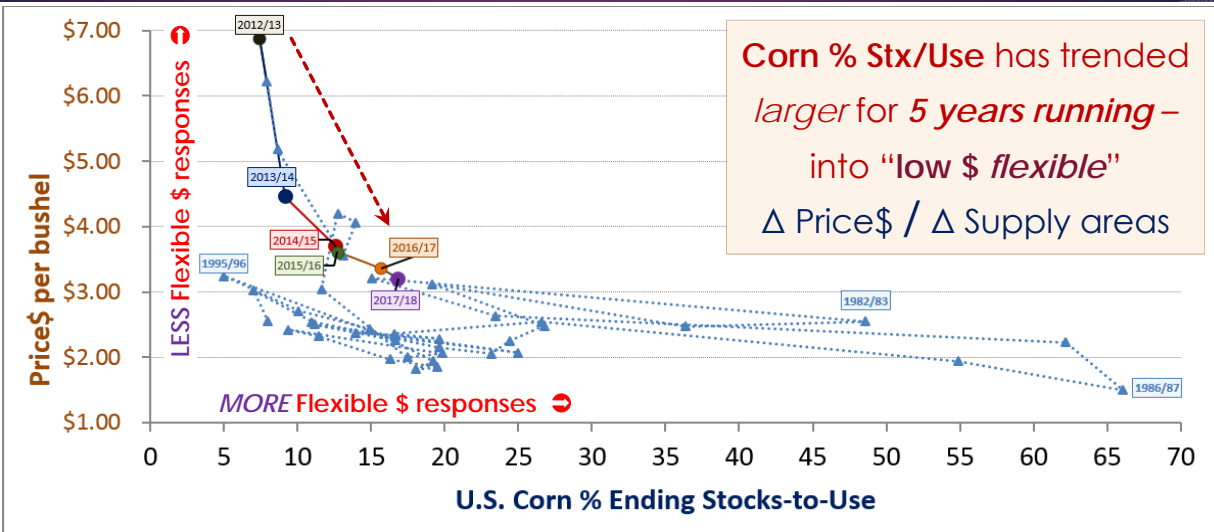


## U.S. Corn % Stocks/Use vs Price\$

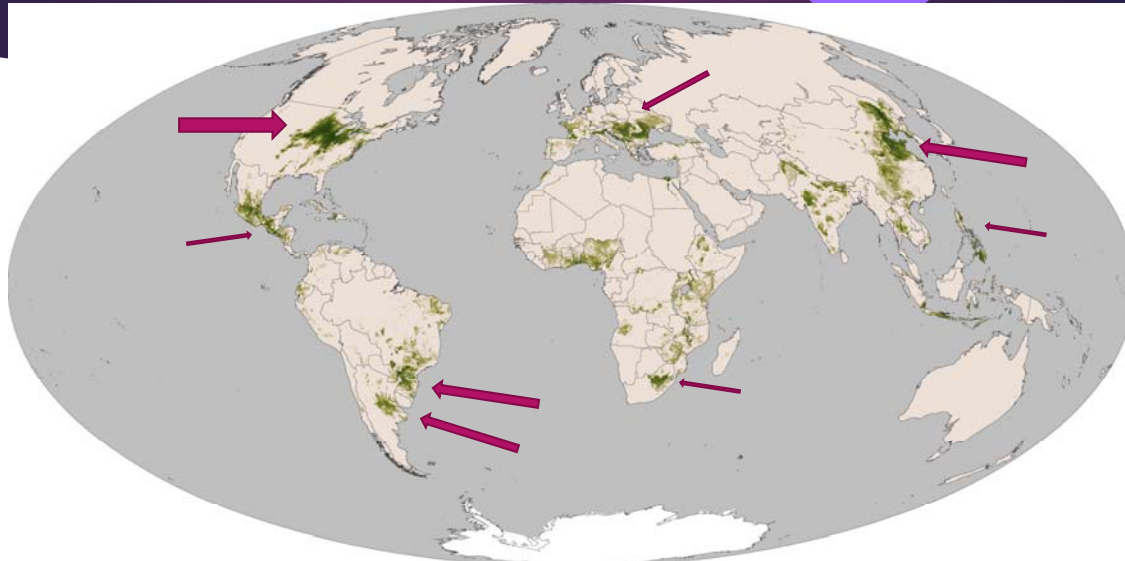




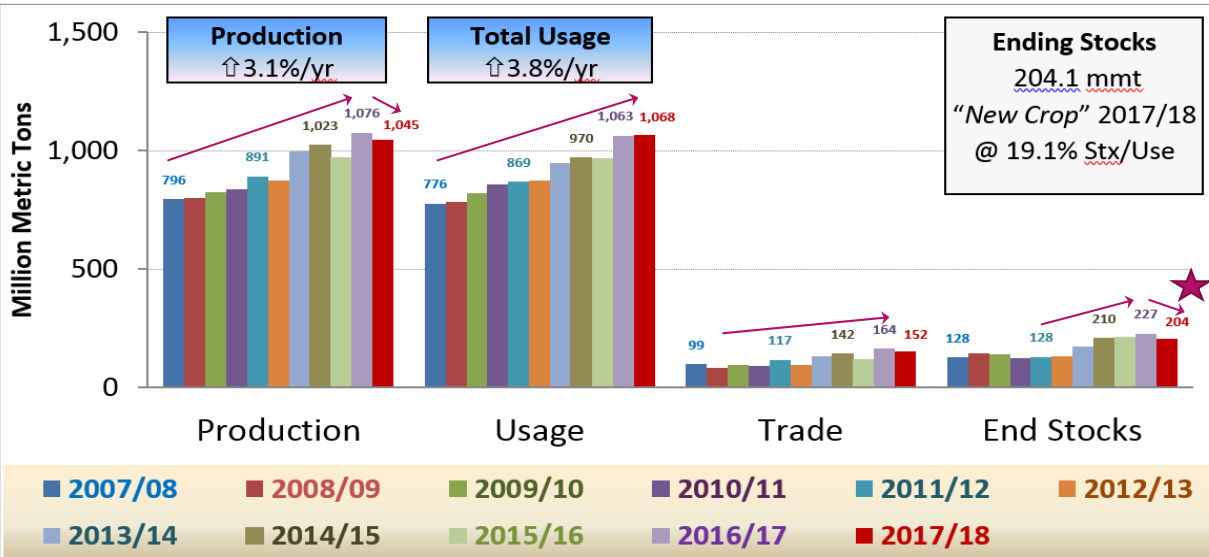
# U.S. Corn % Stocks/Use vs Price\$



# World Corn (Maize) Production Regions



# World Corn Supply, Use & Stocks



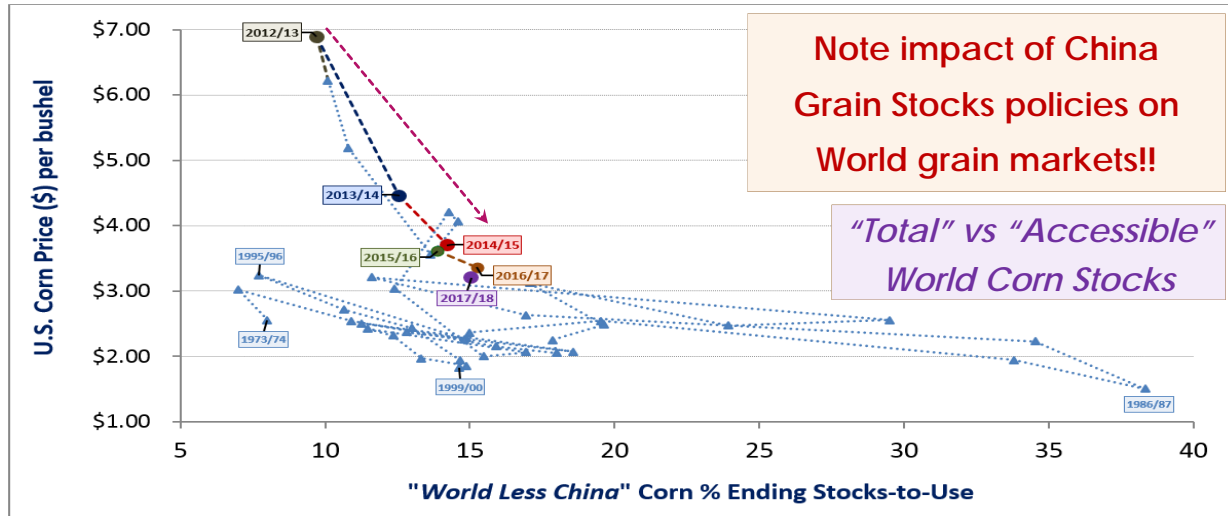
# World Corn Production

| Country or Region    | 2016/17 estimate | 2017/18 forecast | Change from November 9 | Change from 2016/17 |
|----------------------|------------------|------------------|------------------------|---------------------|
| <i>Million Tons</i>  |                  |                  |                        |                     |
| <b>World</b>         | <b>1,075.5</b>   | <b>1,044.7</b>   | <b>0.85</b>            | <b>-30.8</b>        |
| <b>United States</b> | <b>384.8</b>     | <b>370.3</b>     | <b>--</b>              | <b>-14.5</b>        |
| <b>Foreign</b>       | <b>690.8</b>     | <b>674.5</b>     | <b>0.85</b>            | <b>-16.3</b>        |
| Argentina            | 41.0             | 42.0             | --                     | 1.0                 |
| Brazil               | 98.5             | 95.0             | --                     | -3.5                |
| Mexico               | 27.6             | 26.2             | --                     | -1.4                |
| Canada               | 13.2             | 14.1             | --                     | 0.9                 |
| European Union       | 61.5             | 60.1             | 0.51                   | -1.4                |
| Serbia               | 7.6              | 4.0              | --                     | -3.6                |
| FSU-12               | 47.3             | 43.2             | -1.00                  | -4.0                |
| Ukraine              | 28.0             | 25.0             | --                     | -3.0                |
| Russia               | 15.3             | 14.0             | -1.00                  | -1.3                |
| South Africa         | 17.5             | 12.5             | --                     | -5.0                |
| China                | 219.6            | 215.9            | 0.89                   | -3.7                |
| India                | 26.3             | 25.0             | --                     | -1.3                |

↓ World Crop  
 BUT still  
 Large Supply  
 ↓ China  
 ↓ EU  
 ↓ Brazil  
 ↓ FSU-12  
 ↓ So. Africa  
 ↓ Mexico  
 ↑ Argentina  
 ↑ Canada

# U.S. Corn Price\$ vs "World-China" % S/U

MY 1973/74 through "New Crop" MY 2017/18



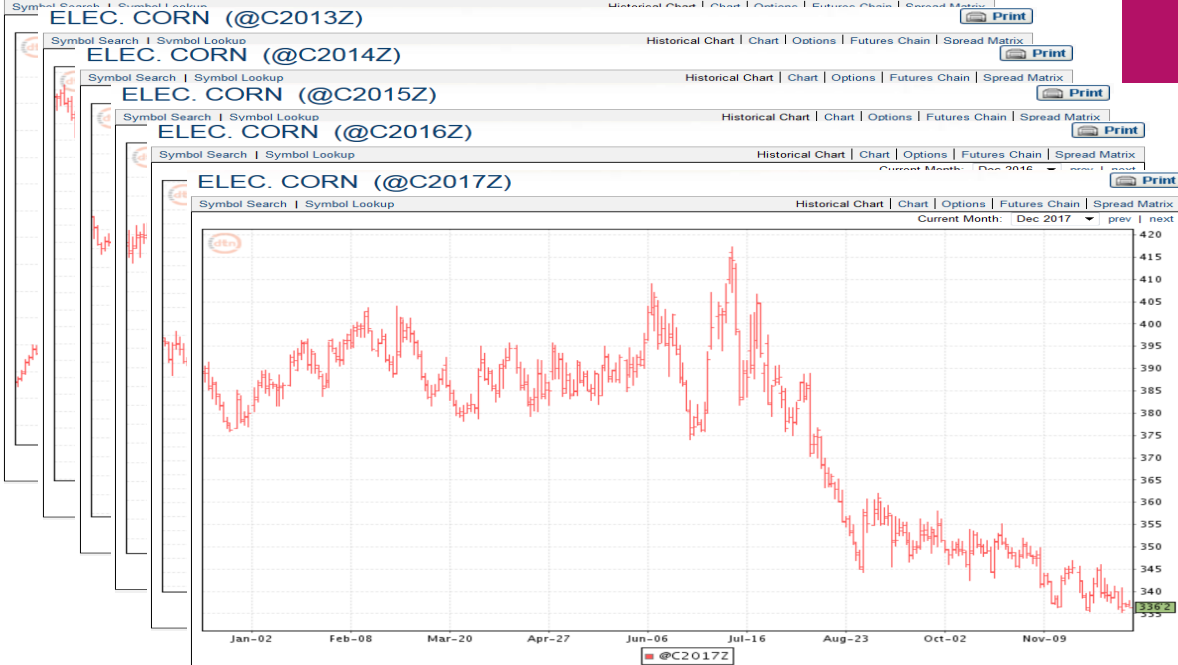
# Probability of Corn Futures Trends

Examining 1990-2017 (Last 28 years)

## ► Likelihood of Level-Higher DEC Corn Futures??

- Trends through Spring-Summer (June-July)?
  - ⇒ Spring-Summer Price ↑ occurred 28/28 Years (100%)
- Which direction did prices move by Fall (Nov-Dec)??
  - ⇒ Price moving sideways / higher = 9/28 Years (32%)
  - ⇒ Price moving lower = 19/28 Years (68%)

ELEC. CORN (@C2012Z)



ELEC. CORN (Jul 2018) [10 Minute Delay]

Refresh

| Last  | Change | %Chg | Open  | High  | Low   | Previous | Volume | Exchange | Trade Time     |
|-------|--------|------|-------|-------|-------|----------|--------|----------|----------------|
| 367.4 | 0.0    | 0    | 367.0 | 367.4 | 366.6 | 367.4    | 18710  | CBOT     | 01/07/18 19:55 |

Symbol: @CN18  Symbol Search | Symbol Lookup Strike Range: Near-the-Money

Mar 2018 | May 2018 | Jul 2018 | Sep 2018 | Dec 2018 | Mar 2019 | May 2019 | Jul 2019 | Dec 2019 | Dec 2020 Jul 2018

Jul 2018 Options

Days Until Expiration: 166

| Calls  |       |      |      |      |      |        |          |        | Puts   |       |      |      |      |      |        |          |
|--|-------|------|------|------|------|--------|----------|--------|--|-------|------|------|------|------|--------|----------|
| Symbol   | Price | Chg  | Open | High | Low  | Volume | Open Int | Strike | Symbol   | Price | Chg  | Open | High | Low  | Volume | Open Int |
| <input checked="" type="checkbox"/> @CN18C3200 | 48.0s | -0.1 | ---  | ---  | ---  | 0      | 116      | 3200   | <input checked="" type="checkbox"/> @CN18P3200 | 0.5s  | 0.0  | ---  | ---  | ---  | 94     | 2088     |
| <input checked="" type="checkbox"/> @CN18C3300 | 38.6  | 0.1  | 38.6 | 38.6 | 38.6 | 0      | 195      | 3300   | <input checked="" type="checkbox"/> @CN18P3300 | 1.3s  | 0.0  | 1.3  | 1.3  | 1.3  | 1012   | 3882     |
| <input checked="" type="checkbox"/> @CN18C3400 | 30.3s | -0.2 | ---  | ---  | ---  | 0      | 112      | 3400   | <input checked="" type="checkbox"/> @CN18P3400 | 3.0s  | 0.0  | 3.1  | 3.1  | 3.1  | 76     | 4446     |
| <input checked="" type="checkbox"/> @CN18C3500 | 23.4s | -0.2 | 23.4 | 23.4 | 23.4 | 20     | 530      | 3500   | <input checked="" type="checkbox"/> @CN18P3500 | 6.0s  | -0.1 | 5.5  | 6.0  | 5.5  | 148    | 10350    |
| <input checked="" type="checkbox"/> @CN18C3600 | 18.1s | -0.1 | 18.0 | 18.0 | 17.7 | 11     | 2522     | 3600   | <input checked="" type="checkbox"/> @CN18P3600 | 10.5s | 0.1  | 10.6 | 10.7 | 10.0 | 490    | 8764     |
| <input checked="" type="checkbox"/> @CN18C3700 | 14.0s | -0.1 | 14.2 | 14.2 | 13.7 | 804    | 12490    | 3700   | <input checked="" type="checkbox"/> @CN18P3700 | 16.4s | 0.2  | 16.4 | 16.4 | 16.2 | 722    | 6520     |
| <input checked="" type="checkbox"/> @CN18C3800 | 10.7  | 0.0  | 10.7 | 10.7 | 10.7 | 180    | 13784    | 3800   | <input checked="" type="checkbox"/> @CN18P3800 | 23.2s | 0.1  | 23.3 | 23.3 | 22.7 | 369    | 6978     |
| <input checked="" type="checkbox"/> @CN18C3900 | 8.3s  | -0.1 | 8.5  | 8.6  | 8.1  | 361    | 6882     | 3900   | <input checked="" type="checkbox"/> @CN18P3900 | 30.6s | 0.1  | 30.5 | 30.5 | 30.3 | 213    | 3004     |
| <input checked="" type="checkbox"/> @CN18C4000 | 6.4   | 0.0  | 6.4  | 6.4  | 6.4  | 513    | 12540    | 4000   | <input checked="" type="checkbox"/> @CN18P4000 | 38.6s | 0.1  | 37.2 | 38.6 | 36.6 | 440    | 2760     |
| <input checked="" type="checkbox"/> @CN18C4100 | 5.0s  | 0.0  | 5.3  | 5.3  | 4.7  | 57     | 6009     | 4100   | <input checked="" type="checkbox"/> @CN18P4100 | 47.2s | 0.2  | ---  | ---  | ---  | 2      | 1723     |
| <input checked="" type="checkbox"/> @CN18C4200 | 4.0s  | 0.1  | 3.7  | 3.7  | 3.7  | 1182   | 7131     | 4200   | <input checked="" type="checkbox"/> @CN18P4200 | 56.2s | 0.3  | ---  | ---  | ---  | 0      | 853      |

In the money At the money

Quotes generated on: Sun, Jan 7, 2018 8:15 PM CST

# ELEC. CORN (Dec 2018) [10 Minute Delay]

Refresh 2

| Last  | Change | %Chg  | Open  | High  | Low   | Previous | Volume | Exchange | Trade Time     |
|-------|--------|-------|-------|-------|-------|----------|--------|----------|----------------|
| 384'2 | -0'2   | -0.07 | 383'6 | 384'4 | 383'6 | 384'4    | 7982   | CBOT     | 01/07/18 19:54 |

Symbol: @CZ18  Symbol Search | Symbol Lookup Strike Range: Near-the-Money

Mar 2018 | May 2018 | Jul 2018 | Sep 2018 | Dec 2018 | Mar 2019 | May 2019 | Jul 2019 | Dec 2019 | Dec 2020 Dec 2018

## Dec 2018 Options

Days Until Expiration: 320

| Calls  |       |      |      |      |      |        |          |        | Puts   |       |     |      |      |      |        |          |
|--|-------|------|------|------|------|--------|----------|--------|--|-------|-----|------|------|------|--------|----------|
| Symbol   | Price | Chg  | Open | High | Low  | Volume | Open Int | Strike | Symbol   | Price | Chg | Open | High | Low  | Volume | Open Int |
| <input checked="" type="checkbox"/> @CZ18C3300 | 56'3s | 0'0  | ---  | ---  | ---  | 0      | 20       | 3300   | <input checked="" type="checkbox"/> @CZ18P3300 | 2'3s  | 0'0 | ---  | ---  | ---  | 0      | 2812     |
| <input checked="" type="checkbox"/> @CZ18C3400 | 48'0s | 0'0  | ---  | ---  | ---  | 0      | 5        | 3400   | <input checked="" type="checkbox"/> @CZ18P3400 | 4'0s  | 0'0 | 4'1  | 4'1  | 4'1  | 118    | 3090     |
| <input checked="" type="checkbox"/> @CZ18C3500 | 40'6s | 0'0  | ---  | ---  | ---  | 0      | 772      | 3500   | <input checked="" type="checkbox"/> @CZ18P3500 | 6'5s  | 0'0 | 6'5  | 6'5  | 6'5  | 43     | 13911    |
| <input checked="" type="checkbox"/> @CZ18C3600 | 34'6s | 0'0  | 34'4 | 34'4 | 34'4 | 10     | 413      | 3600   | <input checked="" type="checkbox"/> @CZ18P3600 | 10'4s | 0'0 | ---  | ---  | ---  | 145    | 13828    |
| <input checked="" type="checkbox"/> @CZ18C3700 | 29'4s | 0'0  | ---  | ---  | ---  | 0      | 816      | 3700   | <input checked="" type="checkbox"/> @CZ18P3700 | 15'1s | 0'0 | 15'1 | 15'3 | 15'1 | 101    | 8089     |
| <input checked="" type="checkbox"/> @CZ18C3800 | 25'3s | 0'0  | 25'2 | 25'4 | 25'2 | 115    | 1934     | 3800   | <input checked="" type="checkbox"/> @CZ18P3800 | 20'7s | 0'0 | 21'0 | 21'0 | 20'4 | 71     | 5999     |
| <input checked="" type="checkbox"/> @CZ18C3900 | 21'6s | 0'0  | 20'7 | 22'0 | 20'7 | 140    | 6550     | 3900   | <input checked="" type="checkbox"/> @CZ18P3900 | 27'2s | 0'0 | 27'4 | 27'4 | 27'2 | 45     | 8497     |
| <input checked="" type="checkbox"/> @CZ18C4000 | 18'4s | 0'0  | 18'5 | 18'7 | 18'1 | 77     | 12772    | 4000   | <input checked="" type="checkbox"/> @CZ18P4000 | 33'7s | 0'0 | 33'4 | 33'4 | 33'4 | 2      | 5317     |
| <input checked="" type="checkbox"/> @CZ18C4100 | 15'7s | 0'0  | 16'0 | 16'0 | 15'5 | 152    | 3389     | 4100   | <input checked="" type="checkbox"/> @CZ18P4100 | 41'1s | 0'0 | ---  | ---  | ---  | 0      | 2020     |
| <input checked="" type="checkbox"/> @CZ18C4200 | 13'2  | -0'3 | 13'2 | 13'2 | 13'2 | 259    | 11554    | 4200   | <input checked="" type="checkbox"/> @CZ18P4200 | 48'6s | 0'0 | ---  | ---  | ---  | 0      | 1026     |
| <input checked="" type="checkbox"/> @CZ18C4300 | 11'5s | 0'0  | 12'0 | 12'0 | 11'4 | 54     | 7519     | 4300   | <input checked="" type="checkbox"/> @CZ18P4300 | 56'5s | 0'0 | ---  | ---  | ---  | 0      | 1622     |

In the money  At the money

Quotes generated on: Sun, Jan 7, 2018 8:16 PM CST

## What "Old Crop" Corn Marketing Strategies are Likely to Work Best in 2018?

### ► For "Old Crop" 2017 Feedgrains

- **On-Farm Storage** ⇒ Yes, but not until spring-summer 2018
- **Off-Farm Storage** ⇒ Maybe, but will need larger 2018 rallies
- **Storage Hedge / Fwd Contract** ⇒ Maybe ⇒ futures have "carry"!
- **Buy Puts or Marketing Loan** ⇒ No Mktg Loans (Watch ↓ put costs)
- **Sell Cash & Buy Call Options** ⇒ Watch narrower Basis (Yes post sales\*)



## What “New Crop” Corn Marketing Strategies are Likely to Work Best in 2018?

### ► For “New Crop” 2018 Feedgrains

- **Futures Hedge (HTA)** ⇒ Yes, but not until spring-summer 2017
- **Forward Contract** ⇒ Maybe, but watch for better basis bids
- **Buy Puts** ⇒ Maybe @ spring/summer rallies
- **Marketing Loans** ⇒ Be aware of Mktg Loan\$ vs Net Put\$
- **Fwrd Contract + Buy Calls** ⇒ No if wide Basis (+ rally protection)



## Questions?

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