2019 Corn Market Outlook

Kansas Corn School, Garden City, Kansas

February 15, 2019

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Corn Production Cost & Profits

Irrigated & Non-Irrigated Corn Enterprise Records

Kansas Farm Management Association

2012-2017

KANSAS STATE UNIVERSITY | Department of Agricultural Economics

Irrigated Corn in Kansas

KFMA Enterprise Records: Years 2012-2017

	Years 2012 - 2016	Year 2017
Number of Farms	63 farms	56 farms
Yield /acre	196.3 bu/ac	210.7 bu/ac
Gross Income /acre	$761 /ac	$604 /ac
Variable Cost /acre	$566 /ac	$489 /ac
Total Expense /acre	**$747 /ac**	**$649 /ac**
Gross Income /bushel	$4.60 /bu	$3.35 /bu
Total Expense /bushel	**$4.51 /bu**	**$3.60 /bu**

Irrigated Corn in Kansas

Corn Sales & Other Revenues

	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Corn Sales	**$4.35** /bu	**$720** /ac	**$3.19** /bu	**$574** /ac
Other Income	$0.24 /bu	$40 /ac	$0.16 /bu	$30 /ac
Total Income	**$4.60** /bu	**$761** /ac	**$3.35** /bu	**$604** /ac

Irrigated Corn in Kansas

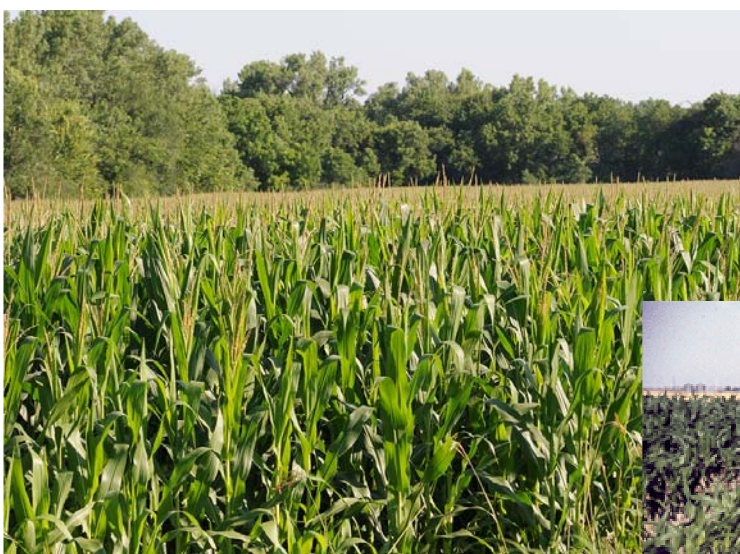
Variable, Fixed, & Total Costs

	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Variable Costs	**$3.42** /bu	**$566** /ac	**$2.71** /bu	**$489** /ac
Fixed Costs	$1.09 /bu	$181 /ac	$0.89 /bu	$160 /ac
Total Costs	**$4.51** /bu	**$747** /ac	**$3.60** /bu	**$649** /ac

Irrigated Corn in Kansas

Total Costs & Net Returns

	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Total Costs	**$4.51** /bu	**$747** /ac	**$3.60** /bu	**$649** /ac
Net Returns to Management	**+$0.08** /bu	**+$34** /ac	**($0.25)** /bu	**($45)** /ac
Net Returns to Labor + Mgmt	**+$0.51** /bu	**+$34** /ac	**+$0.15** /bu	**+$28** /ac



Non-Irrigated Corn in Kansas

KFMA Enterprise Records: Years 2012-2017

	Years 2012 - 2016	Year 2017
Number of Farms	171 farms	180 farms
Yield /acre	**94.8 bu/ac**	**114.4 bu/ac**
Gross Income /acre	$382 /ac	$351 /ac
Variable Cost /acre	$306 /ac	$276 /ac
Total Expense /acre	**$421 /ac**	**$386 /ac**
Gross Income /bushel	$4.74 /bu	$3.58 /bu
Total Expense /bushel	**$5.22 /bu**	**$3.93 /bu**

Non-Irrigated Corn in Kansas

Corn Sales & Other Revenues

	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Corn Sales	**$3.88 /bu**	**$313 /ac**	**$3.20 /bu**	**$314 /ac**
Other Income	$0.86 /bu	$69 /ac	$0.38 /bu	$37 /ac
Total Income	**$4.74 /bu**	**$382 /ac**	**$3.58 /bu**	**$351 /ac**

Non-Irrigated Corn in Kansas

Variable, Fixed, & Total Costs

	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Variable Costs	**$3.79 /bu**	**$306 /ac**	**$2.81 /bu**	**$276 /ac**
Fixed Costs	$1.43 /bu	$115 /ac	$1.12 /bu	$110 /ac
Total Costs	**$5.22 /bu**	**$421 /ac**	**$3.93 /bu**	**$386 /ac**

Non-Irrigated Corn in Kansas

Total Costs & Net Returns

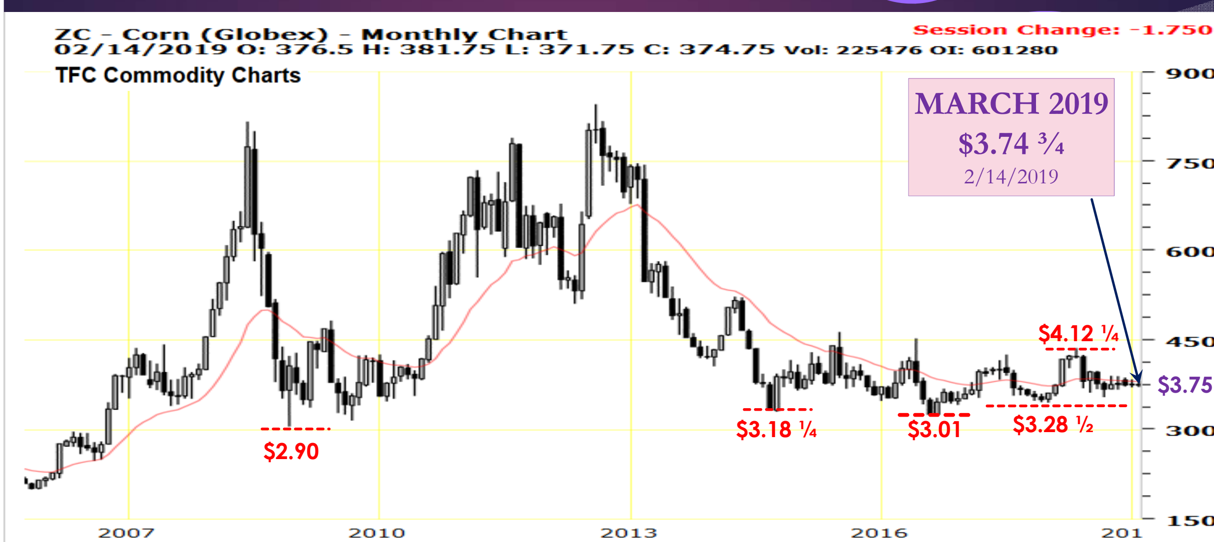
	2012-2016 $/Bu	2012-2016 $/Acre	2017 $/Bu	2017 $/Acre
Total Costs	**$5.22 /bu**	**$421 /ac**	**$3.93 /bu**	**$386 /ac**
Net Returns to Management	($0.49) /bu	($39) /ac	($0.36) /bu	($35) /ac
Net Returns to Labor + Mgmt	**+$0.12 /bu**	**+$10 /ac**	**+$0.13 /bu**	**+$13 /ac**

Corn Markets

KANSAS STATE UNIVERSITY | Department of Agricultural Economics

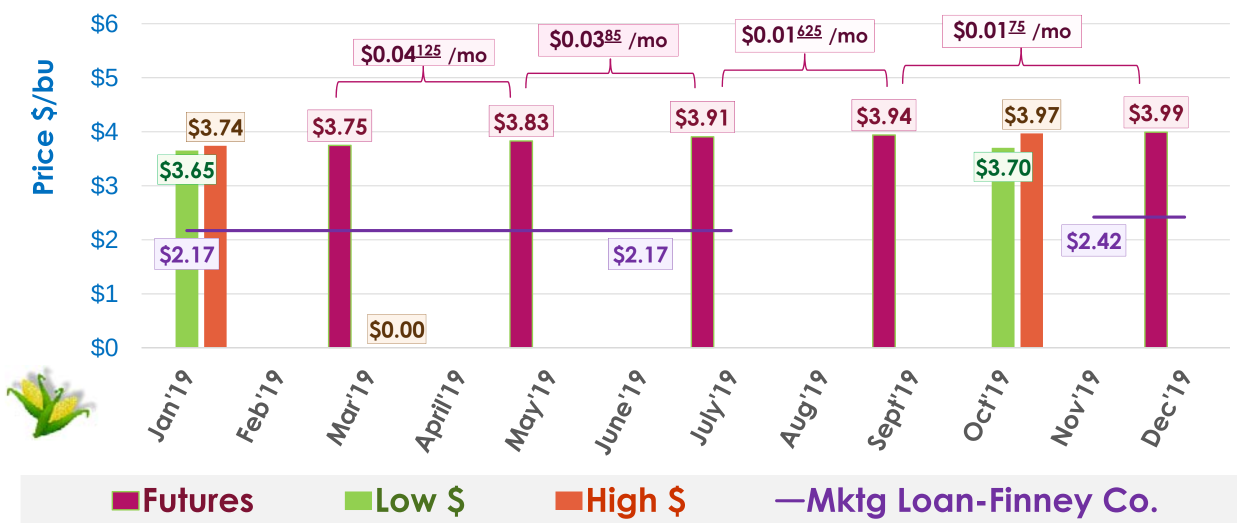
CME Corn Futures

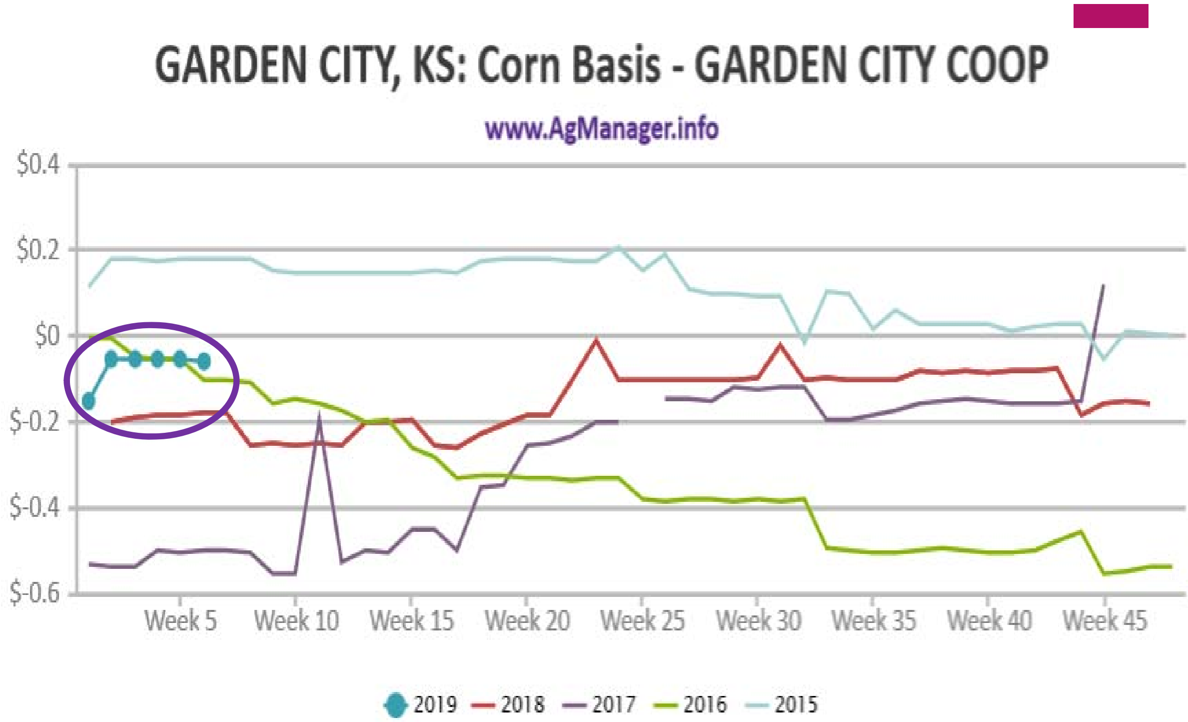
Monthly Chart: November 2009 – December 2018 + 1/8/2019

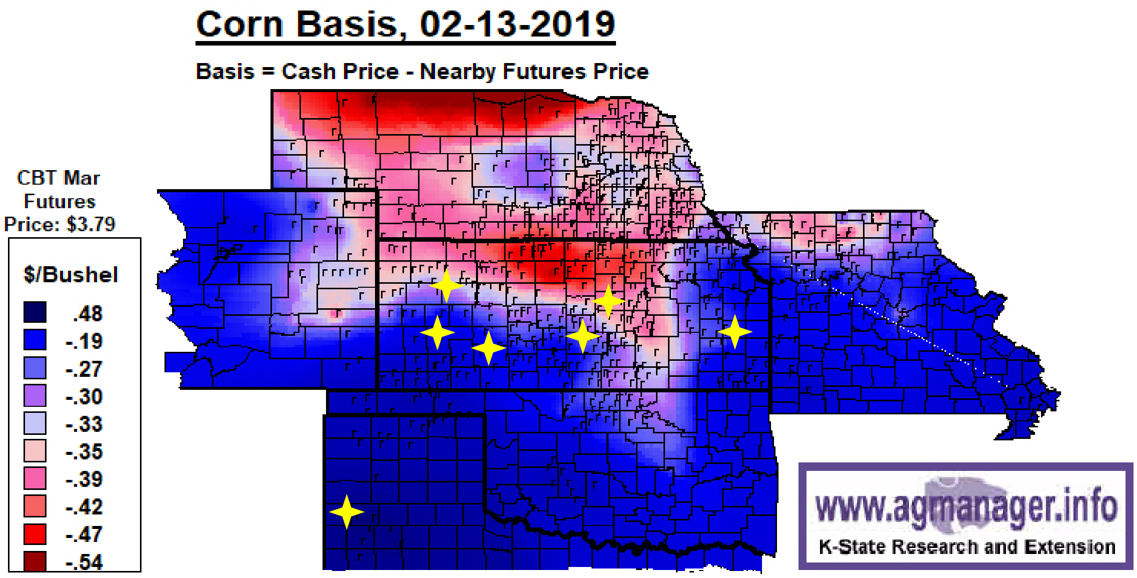


Corn Cash & Futures $'s

Garden City, KS Local Elevators – February 14, 2019 @







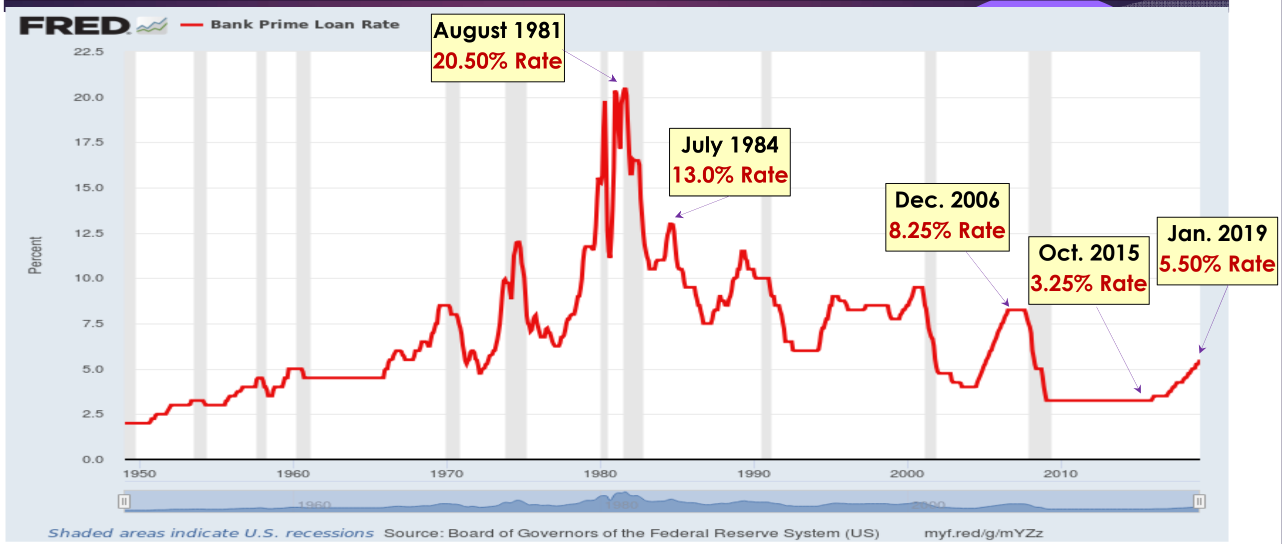
2019 Corn Market "Drivers"

1) U.S. Economy

- A relatively strong U.S. GDP, but fears of future inflation

U.S. Fed: Bank Prime Loan Rate Changes

1950 through November 1, 2018



2019 Corn Market "Drivers"

1) U.S. Economy

- A relatively strong U.S. GDP, but fears of future inflation

2) 2019 South America Crop Production Prospects

- "Dry" in Brazil - ⇩ Soybeans, ??? Corn (1st vs 2nd Crop)

Monthly Crop Calendar for Soybeans

Plant | Bloom | Harvest

	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Ukraine							P	P	P	P					H	H	H	H						
EU							P	P	P	P							H	H	H	H				
Russia							P	P	P	P							H	H	H	H	H	H		
US									P	P	P		B	B	B			H	H	H	H			
China									P	P	P	P					H	H	H	H				
Canada									P	P	P	P	B	B	B	B		H	H	H	H			
Indonesia									P	P	P	P	P	P	H	H	H	H	H	H				
Mexico	H	H	H	H					P	P	P	P	P	P	P	P	P	P	H	H	H	H	H	H
India											P	P	P	P	P	P					H	H	H	H
Paraguay	H	H	H	H	H	H	H	H	H	H	H	H							P	P	P	P	P	P
Brazil	H	H	H	H	H	H	H	H	H	H										P	P	P	P	P
Argentina	P		B	B			H	H	H	H	H	H									P	P	P	P
South Africa			H	H	H	H																P	P	P

CHS Hedging
Jenna Roe

Sources: USDA, AMIS, & CHS, Inc.

Monthly Crop Calendar for Corn

Plant | Silk | Harvest

	Oct		Nov		Dec		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep	
EU	H	H	H	H									P	P	P	P					H	H	H	H
US	H	H	H											P	P	P			S	S	S			H
Mexico *Summer*	H	H	H	H	H	H	H	H	H	H	H			P	P	P	P	P	P	P	P	P		
Ukraine	H	H	H											P	P	P			S	S				H
Russia	H	H	H	H											P	P			S	S	S			
China	H	H													P	P	P	P					H	H
Indonesia *Dry Region*	H	H													P	P	P	P	P	P	H	H	H	H
Philippines *Main*					P	P	P	P	P	P	H	H	H	H	P	P	P	P	P	P	H	H	H	H
Canada	H	H	H	H											P	P	P	P	S	S	S	S		H
India	H	H	H	H	H	H	H	H									P	P	P	P	P	P	P	P
Brazil *1st crop*	P	P	P	P	P	P	H	H	H	H	H	H	H	H	H	H						P	P	P
Argentina	P	P	P	P		S	S	S			H	H	H	H	H	H							P	P
Philippines *2nd Crop*	P	P	P	P	H	H	H	H	H	H													P	P
South Africa	P	P	P	P	P	P	P	S	S					H	H	H	H	H	H	H				
Mexico *Winter*							P	P	P	P	P	P		H	H	H	H	H	H	H				
Brazil *2nd crop*								P	P	P	P				H	H	H	H	H	H	H	H		
Indonesia *Rainy Region*	H	H	H	H	H	H			P	P	P	P	P	P										
Nigeria											P	P	P	P	P	P	P	P	H	H	H	H	H	H

CHS Hedging
Jenna Roe

Sources: USDA, AMIS, and CHS, Inc. locations

*Production estimates are in million metric tons and come from the FAS/USDA's most recent monthly World Agricultural Production report.

**Production estimates are for ALL CORN. Numbers will be listed next to the variety that comes first in the chart.

2019 Corn Market "Drivers"

1) U.S. Economy

- A relatively strong U.S. GDP, but fears of future inflation

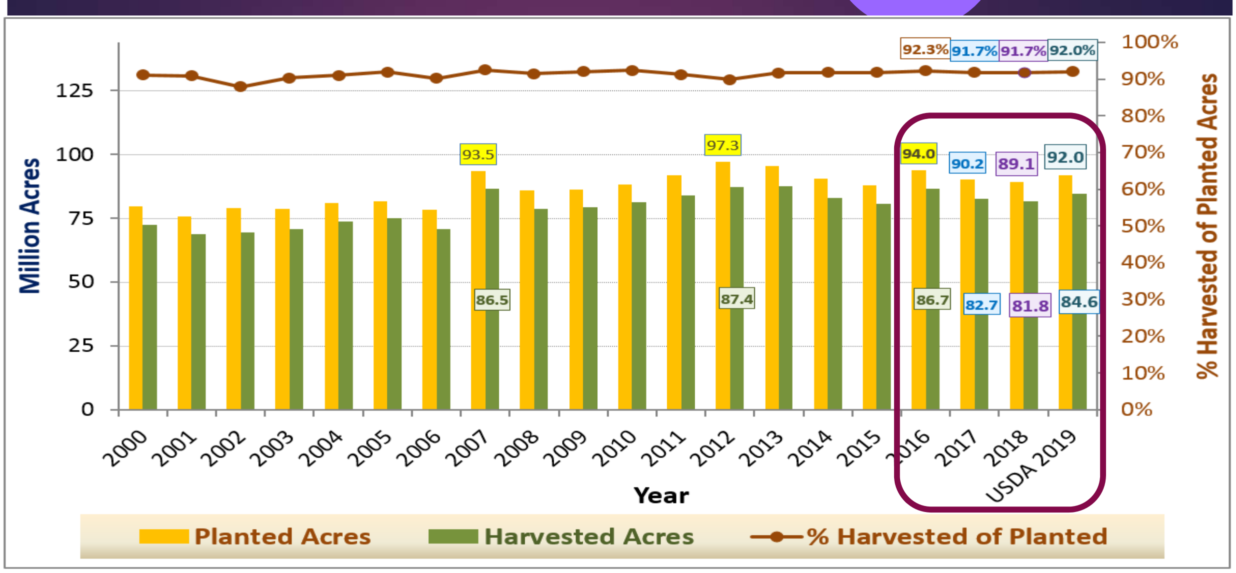
2) 2019 South America Crop Production Prospects

- "Dry" in Brazil - ⇩ Soybeans, ??? Corn (1st vs 2nd Crop)

3) 2019 U.S. Corn Acres

- Market "Narrative" ⇨ U.S. Corn Acres ***UP*** **3 to 4 mln acres+**
- ***BUT*** now So. America, U.S.-China issues may change that

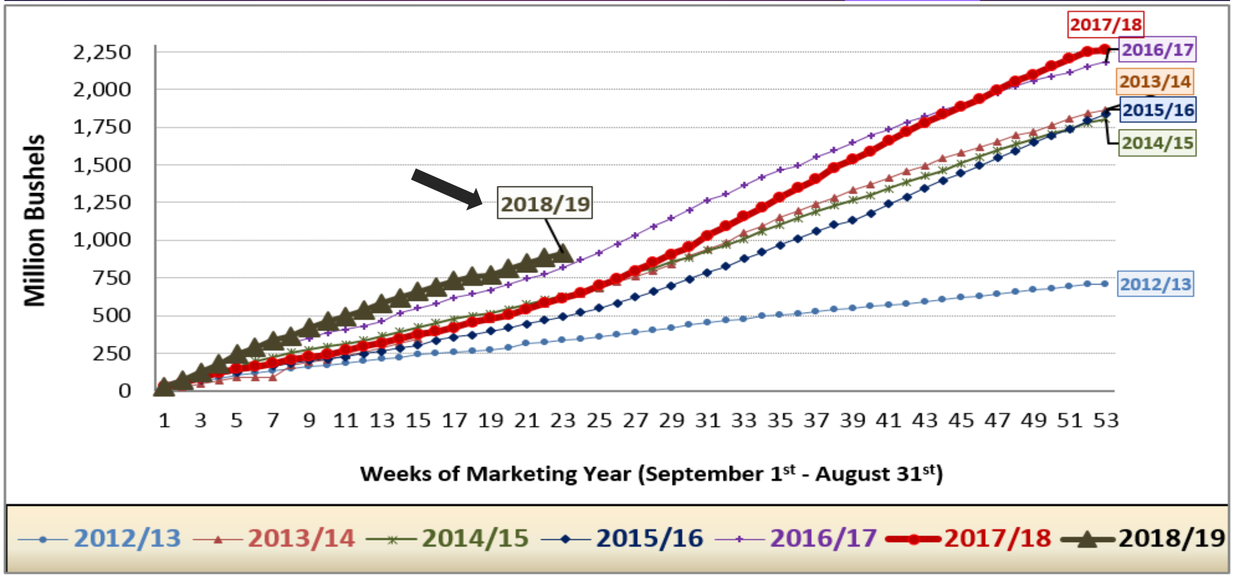
U.S. Corn Acreage



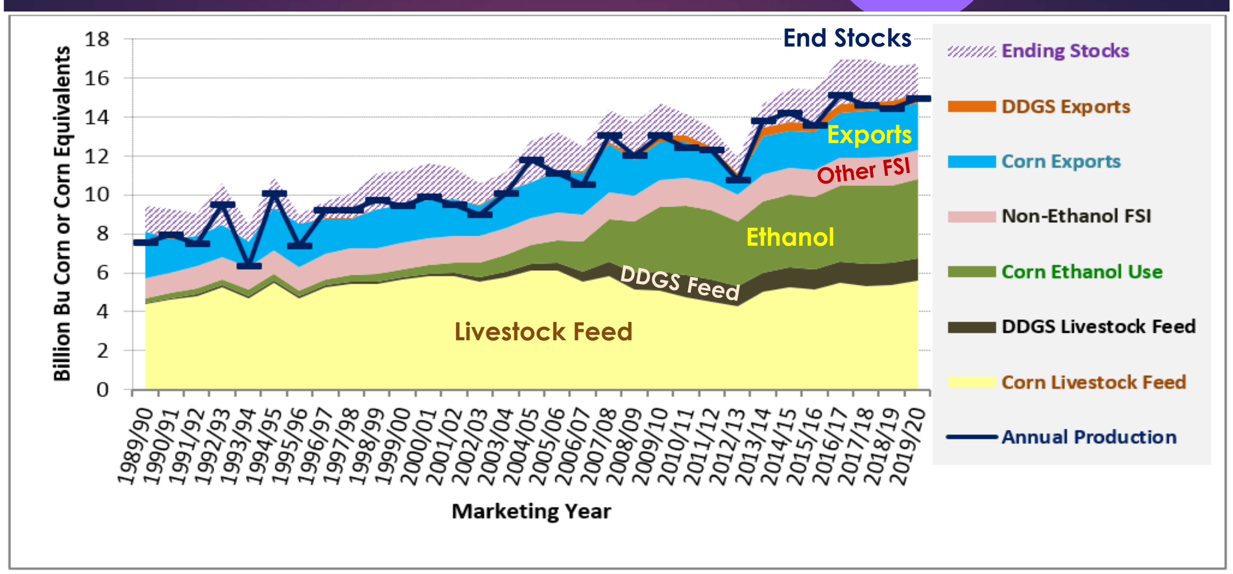
4) U.S. Corn Usage in "Current" MY 2018/19 (thru 8/31/2019)

- Low Ethanol Plant Profitability – "slower" corn use @ 5.575 bb
  (2nd highest on record vs 5.605 bb in MY 2017/18)
- U.S. Exports @ 2.450 bb USDA
- Feed Use @ 5.375 bb
  (2nd highest since 2008/09, 5.470 bb in 2016/17)

U.S. Corn Exports – Weekly thru February 7, 2019



U.S. Corn Use – *Together by Category*



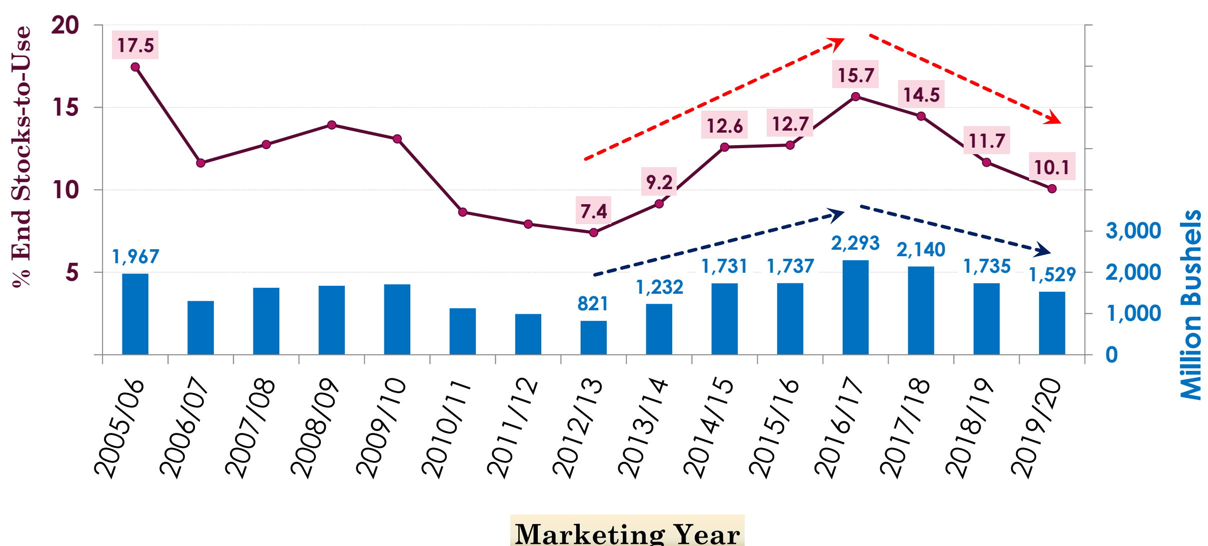
4) U.S. Corn Usage in "Current" MY 2018/19 (thru 8/31/2019)

- Low Ethanol Plant Profitability – corn use @ 5.575 bb
- U.S. Exports @ 2.450 bb USDA
- Feed Use @ 5.375 bb

5) "Tighter" U.S. Corn Stocks & % Ending Stocks-to-Use

- **1.735 bb** @ **11.67% Stocks/Use** in "Current" MY 2018/19
- **Impact of +/– 150 mb in Corn Use?**
  - o **1.585 bb** vs **1.885 bb** U.S. corn ending stocks
  - o **≈ 10.6% S/U** vs **≈ 12.8% S/U** ➲ "***Swing" of*** +/– $0.25 /bu

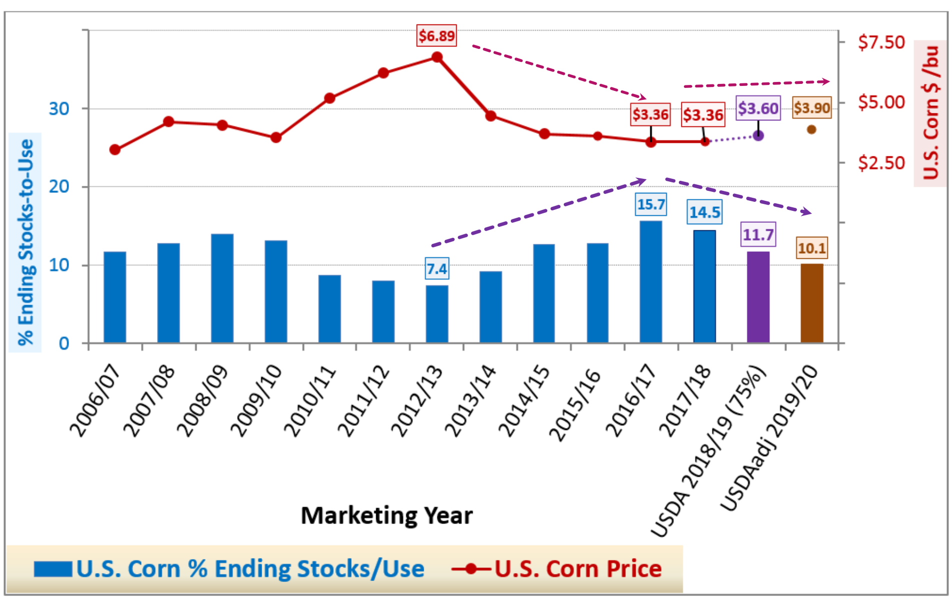
U.S. Corn Ending Stocks & % Stx/Use



6) U.S. Corn Price Outlook USDA

- **$3.60 /bu** in "Current" MY 2018/19
- **$3.90 /bu** in "Next Crop" MY 2019/20 (+$0.30 /bu vs current)
  - **USDA Forecast for "Next Crop" MY 2019/20 :**
    - **92.00 million acres planted** (vs 89.129 ma current)
    - **176.5 bu/ac,** (vs 176.4 bu/ac current)
    - **14.930 bb Production** (vs 14.420 bb current)
    - **5.700 bb Ethanol Use** (vs 5.575 bb current)
    - **2.425 bb Exports** (vs 2.450 bb current)
    - **1.529 bb Ending Stocks** (vs 1.735 bb current)
    - **10.07% Ending Stocks / Use** (vs 11.67% current)

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



MY 2006/07
Thru *"Next Crop"*
MY 2019/20

Including preliminary **U.S. Corn Supply-Demand & Prices** For ***"Next Crop"*** **MY 2019/20**

6) U.S. Corn Price Outlook USDA

- $3.60 /bu in "Current" MY 2018/19
- $3.90 /bu in "Next Crop" MY 2019/20 (+$0.30 /bu vs current)
  - USDA 2019/20: 176.5 bu/ac, 14.930 bb, strong Use, 1.529 bb Stocks

7) "Other" Market Factors

- **Slow U.S. Grain Sorghum Exports ⇨ Focus on Domestic Use**
- **USDA Market Facilitation Payments (MFP)**
  - ***Low*** for **Corn**, ***high*** for Soybeans - Sorghum (Acres 2019 impact?)
- **New Farm Bill ARC vs PLC Choices.....**

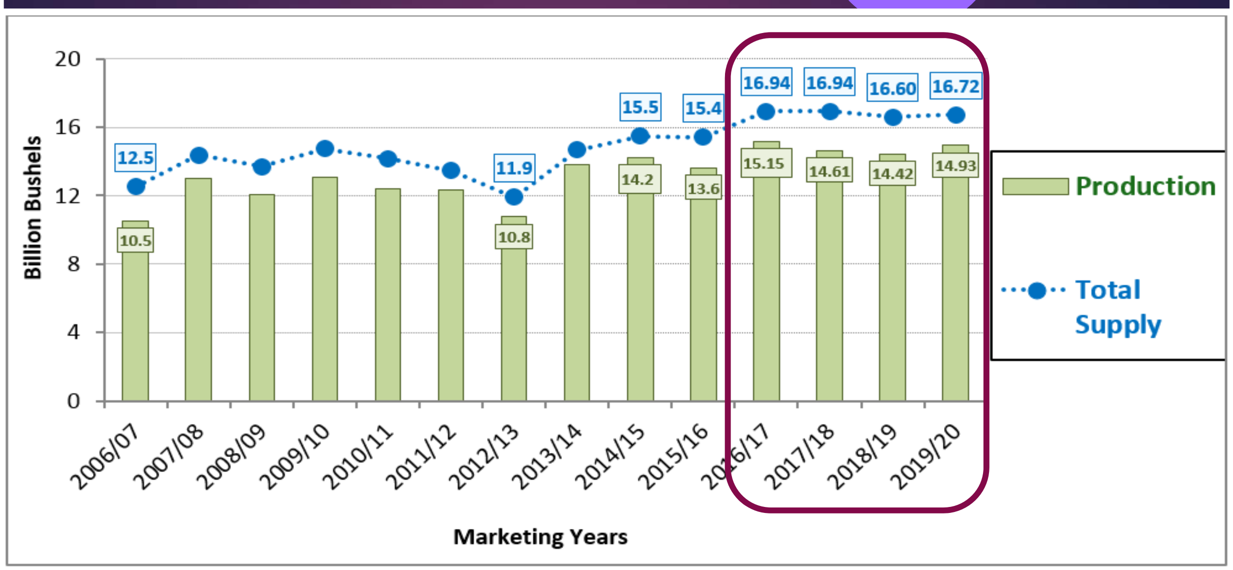
U.S. Corn Supply-Use

- **2018 U.S. Corn & Sorghum Production ≥ 2017 Crops**
- **Large Corn Stocks are limiting Feedgrain Price$'s**
- **Low Price$'s supporting "*New Crop*" MY 2018/19 Corn Use**
  - **Ethanol 2018/19** = 5.575 bln bu (***Near record*** *– vs 5.605 bb last year)*
  - **Livestock Feed 2018/19** = 5.375 bln bu *(< 5.470 bb in MY 2016/17 – 11 yr high)*
  - **Exports 2018/19** = 2.450 bln bu (***vs 2.438 bb in '17/18*** *& 2.294 in '15/16)*
  - **Other FSI 2018/19** = 1.465 bln bu (***Record high*** *– vs 1.453 bb last 2 years)*

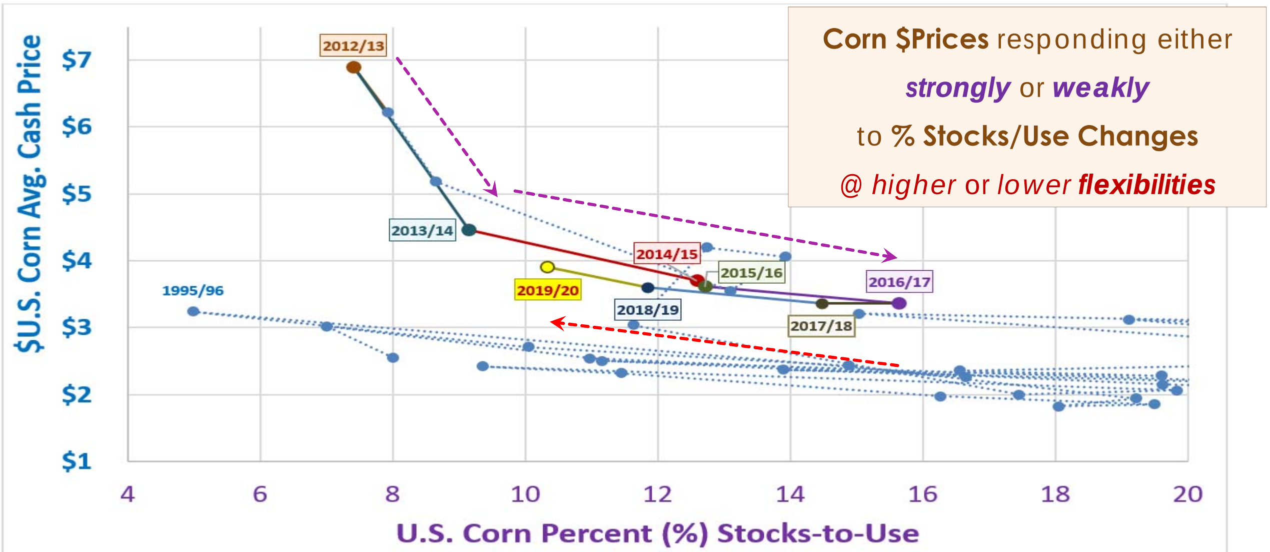
U.S. Corn Stocks & % Stocks/Use

- **Corn**: "***Moderate***" **Stocks & % S/U**
  - **End Stocks 2018/19** ⇨ 1.735 bln bu (*vs **2.140 bb** last year*)
  - **% Stocks/Use 2018/19** ⇨ 11.7% S/U (*vs **14.5%** Stx/Use last year*)

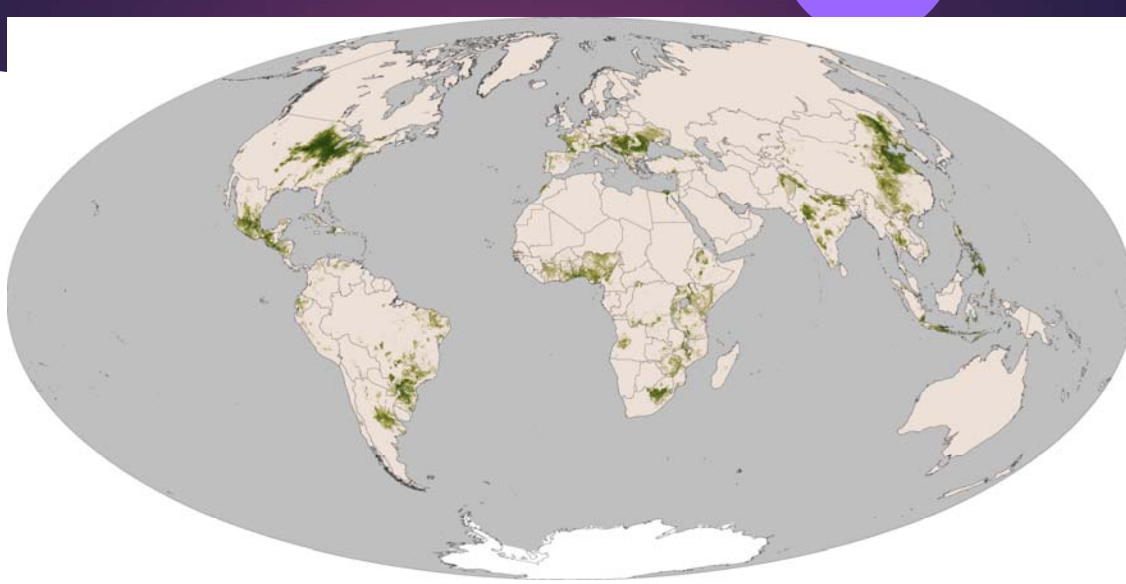
U.S. Corn Production & Supplies



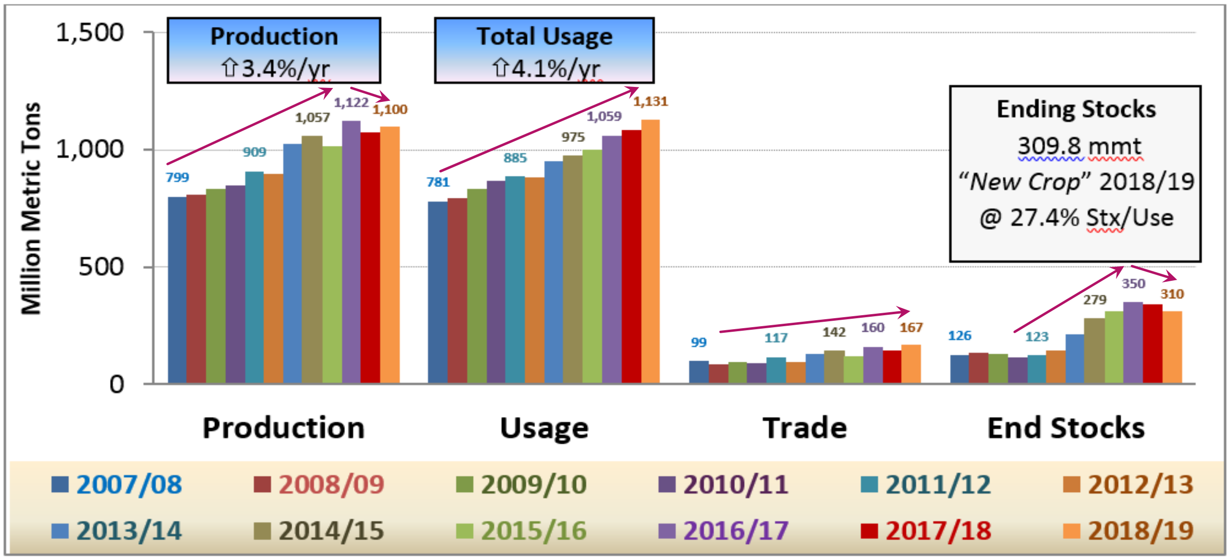
U.S. Corn % Stocks/Use vs Price$



World Corn (Maize) Production Regions

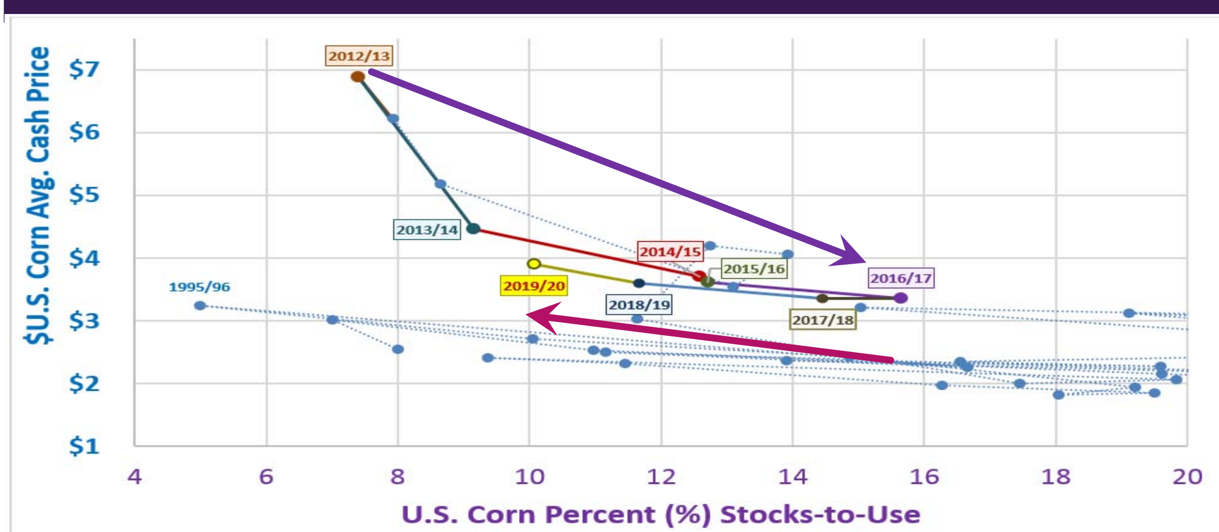


World Corn Supply, Use & Stocks



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

MY 1973/74 through "Next Crop" MY 2019/20



Questions?

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