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The Demand Drivers for US Cattle Industry

2019/20 Ag Market Themes

- World Political/Economic “Order” is becoming “Disorder!” Regional Trade protectionism adds to ag market volatility going forward. We have Brexit, President Trump, Xi, Putin, Macri (Fernandez?) and Bolsonaro mixing politics into ag trading. Makes regional outlooks more difficult into 2020. It’s about Nationalization – not Globalization!
- China and the US are working on a bilateral Trade Deal that could mandate that China secure \$35-50 Bil Plus of US ag goods annually. This would include US corn, ethanol, wheat, meats and a host of other ag products. China initially said **Yes** and then **No** to a deal that took 6 months to negotiate. The odds that US/China cut a trade deal ahead of the 2020 US Presidential election are low! Yet, the US could push China to make periodic commodity purchases to forestall new US tariffs on \$500 Bil of Chinese goods. Today, China has a total ban on US ag imports so tariffs are of little importance!
- World weather patterns are changing. Climate change is real and starting to be better understood by science. Learning point; there will more areas that endure acute flooding and drought in the years ahead . If one wants to be bullish of US ag, you need adverse weather in South America, the EU or Black Sea.
- Historically wet spring weather has reduced the 2019 US soy crop by 470 Mil Bu and US corn crop 1.2 Bil Bu (from the May WASDE). Upside price risks remain into early Autumn with a secondary short crop top due in October. The US grain/feed markets are caught between large world crops (slow US export demand), trade disputes and failing US summer row crop production. The old saying that “short crops have long tails” will apply this year. Producers will want to use CBOT rallies to sell 2020 and 2021 crops at profitable margins. The outlook for the US grain farmer is pretty grim for the next 2-3 years.

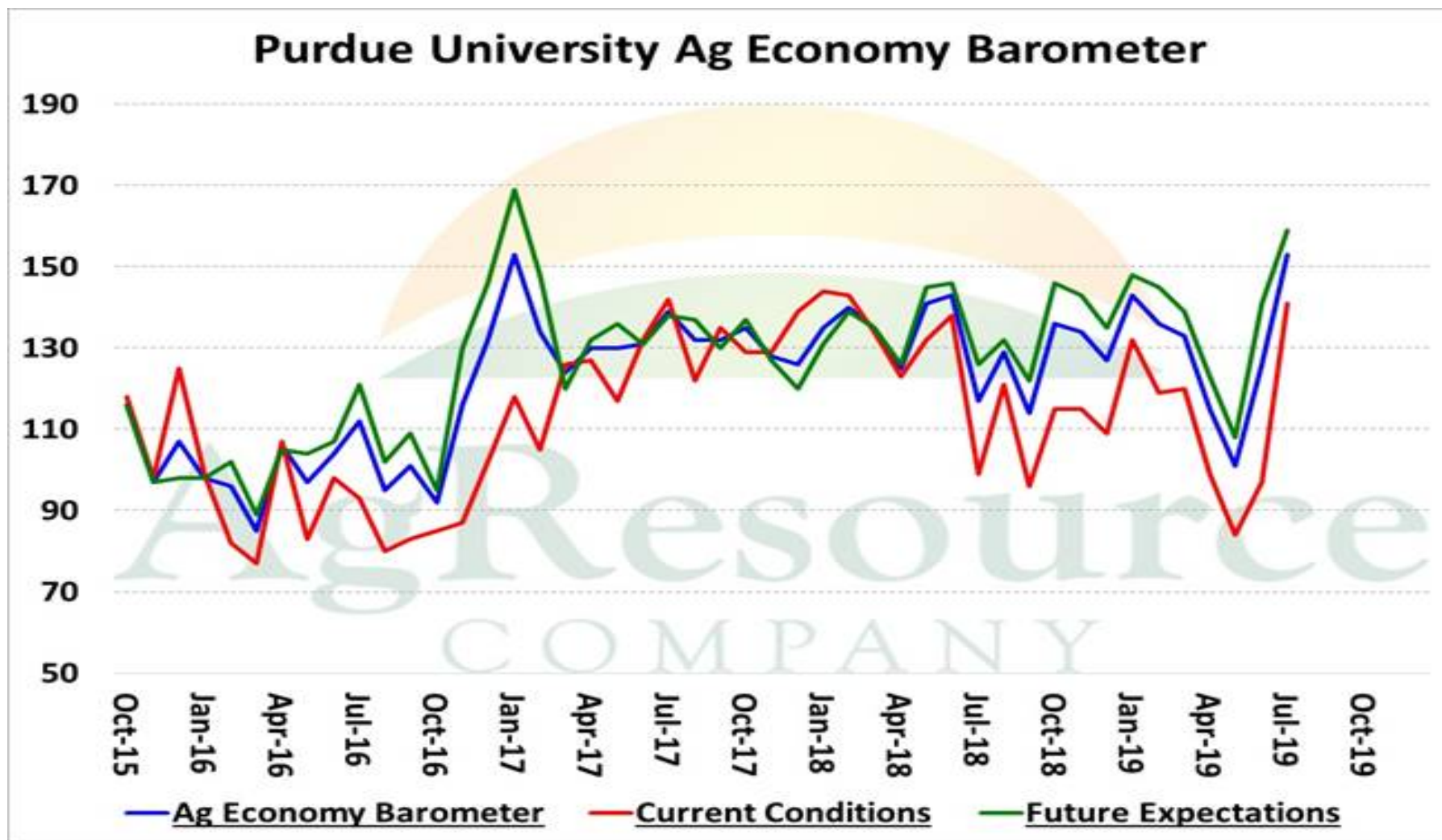
2019/20 Ag/Beef Market Themes

- African Swine Fever (ASF) is dramatically impacting the China hog herd with losses so far estimated at 30-50%. China soybean imports to slow going forward with 2019/20 imports estimated at 75-80 MMTs. From the 2018/19 WASDE forecast, China soybean imports to drop 22-26 MMTs annually.
- Today the US Cattle Market is struggling between the uncertainty of politics (trade) amid record large domestic beef demand and rising non-US Beef/pork prices. AgResource research argues that a seasonal low formed last week following the Tyson KS fire. A tightening US fed cattle supply starts in late September which will underpin cash cattle prices into early 2020. ARC targets a return to \$120-124 for 2020 early seasonal high without a US/China trade deal.
- The next 5 years offers a positive outlook for meats/bearish for the soy/grain amid differing trade opportunities. At some point, China ASF will shift world meat trade flows back to the US.

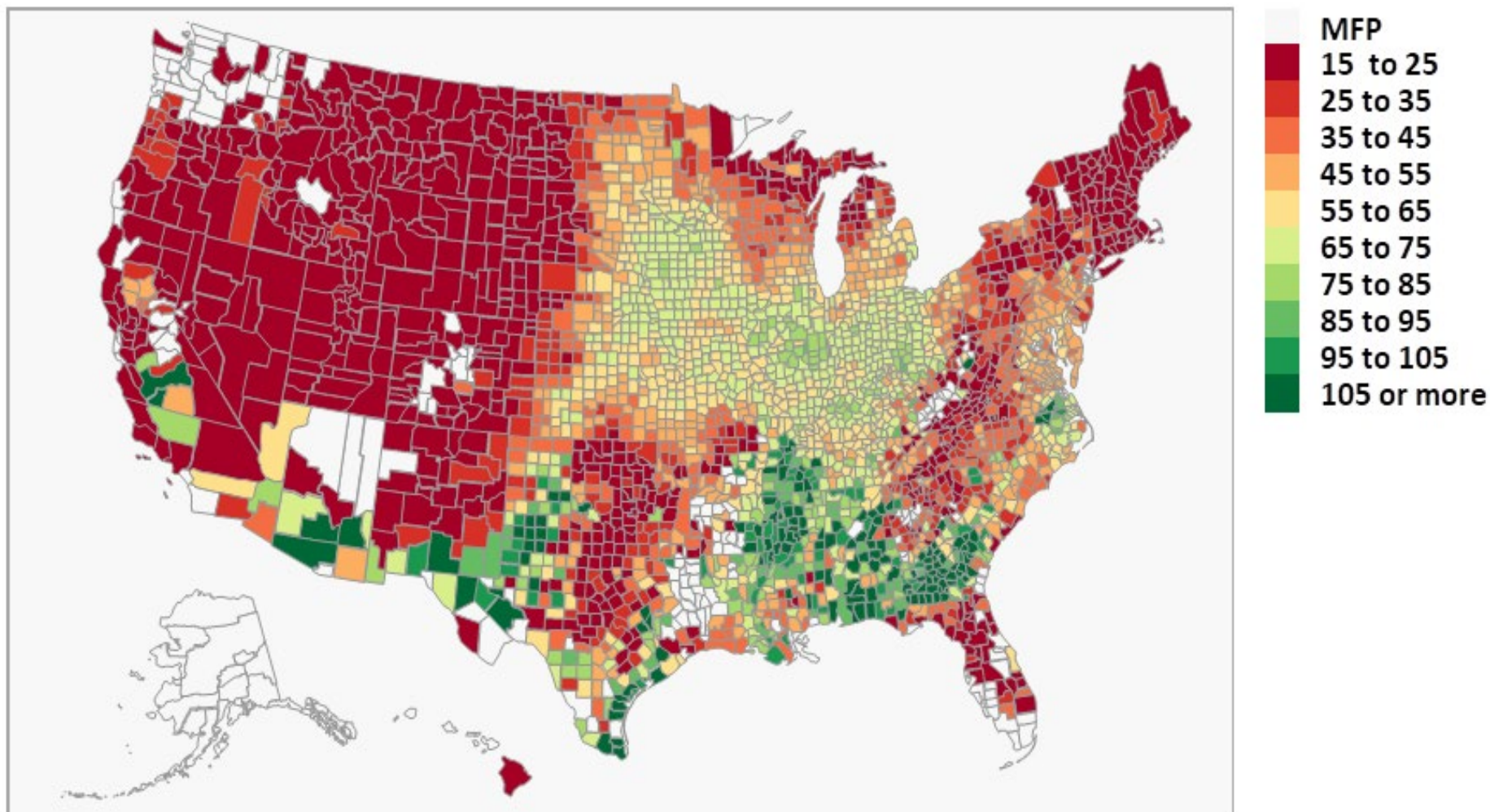


Farmers Turned Bullish Basis

Rising CBOT and MFP Payments

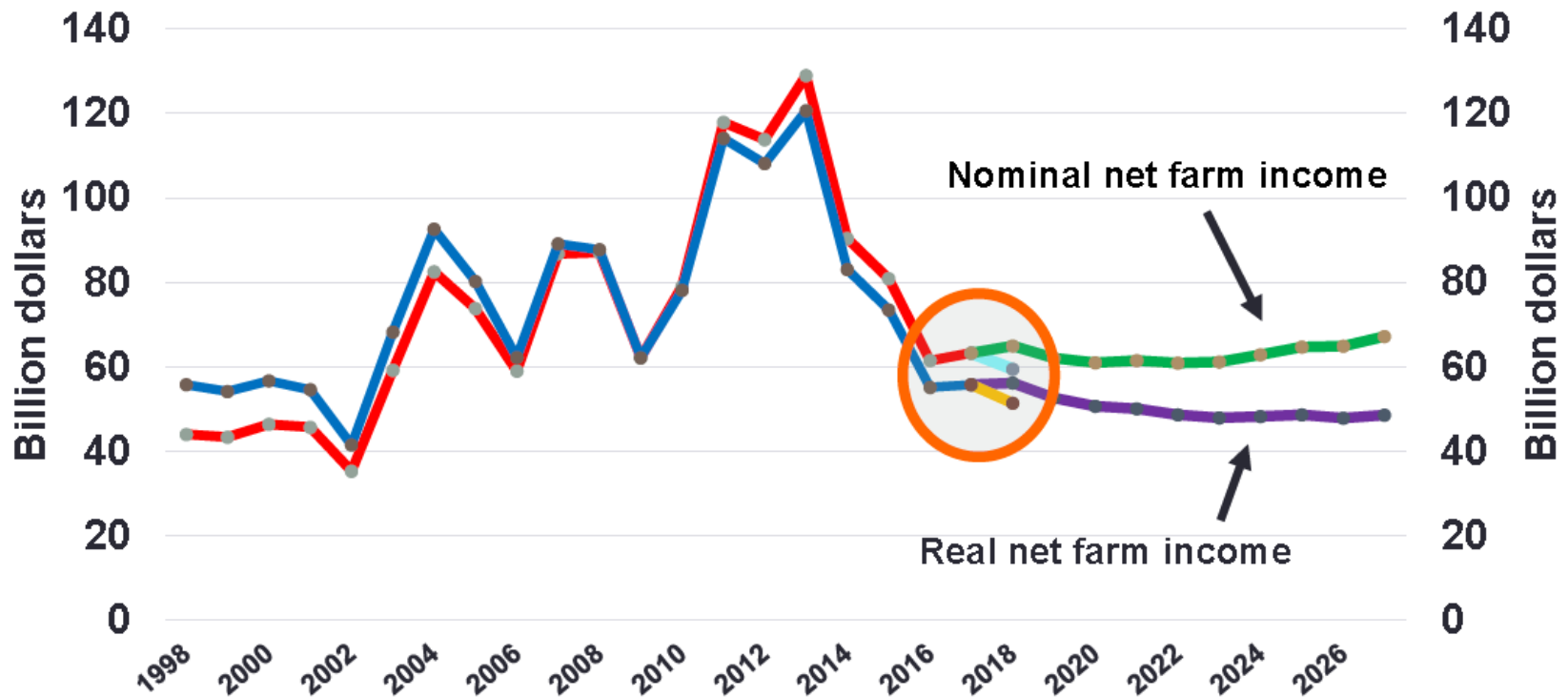


Delta and SE US Enjoying Largest MFP Payments \$85-150/acre



US Net Farm Income Forecast to Be Stagnant into 2028

Real net farm income falling

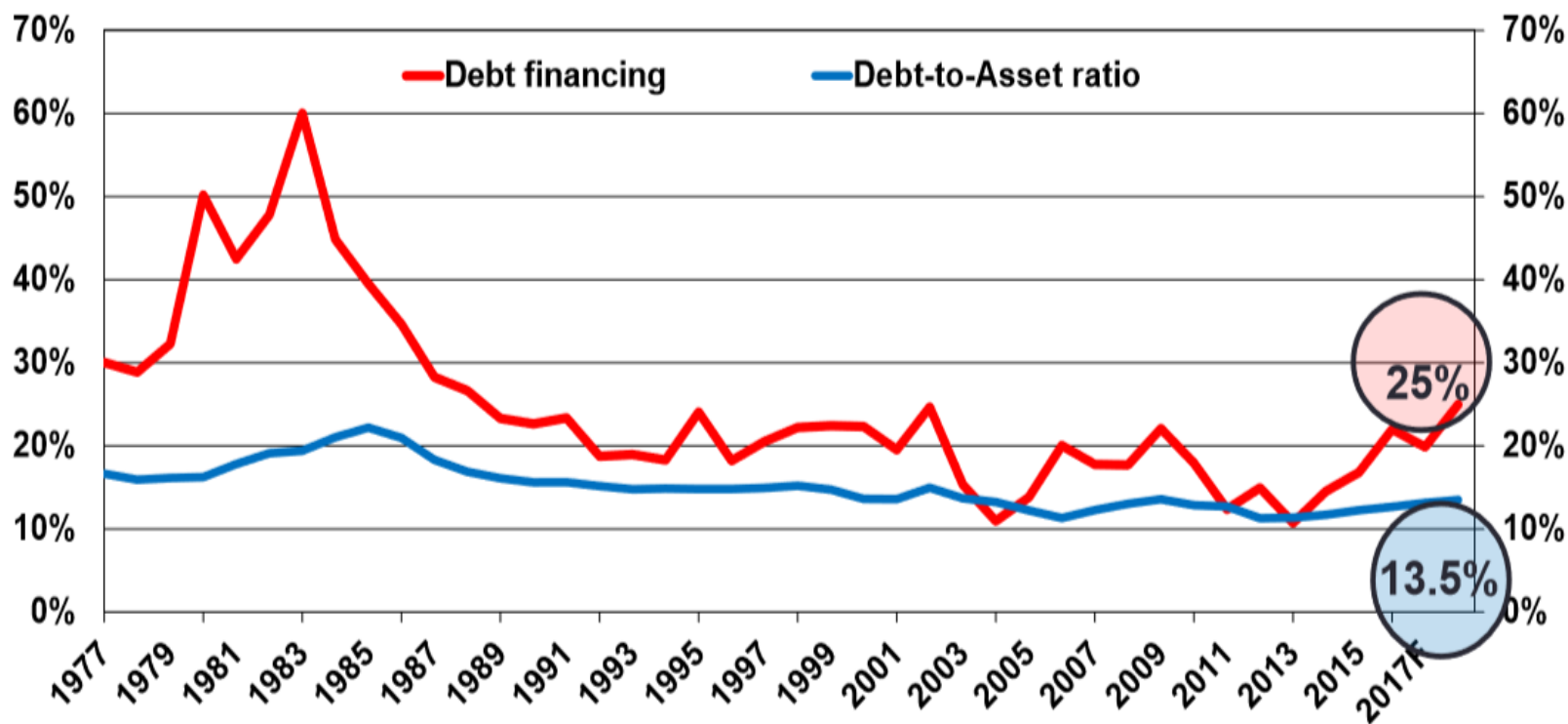


Data: USDA

Rising Pressure on the US Banker – Debt Financing Rising Sharply

Debt-to-assets remain low — 13.5%

but debt financing highest since 1988

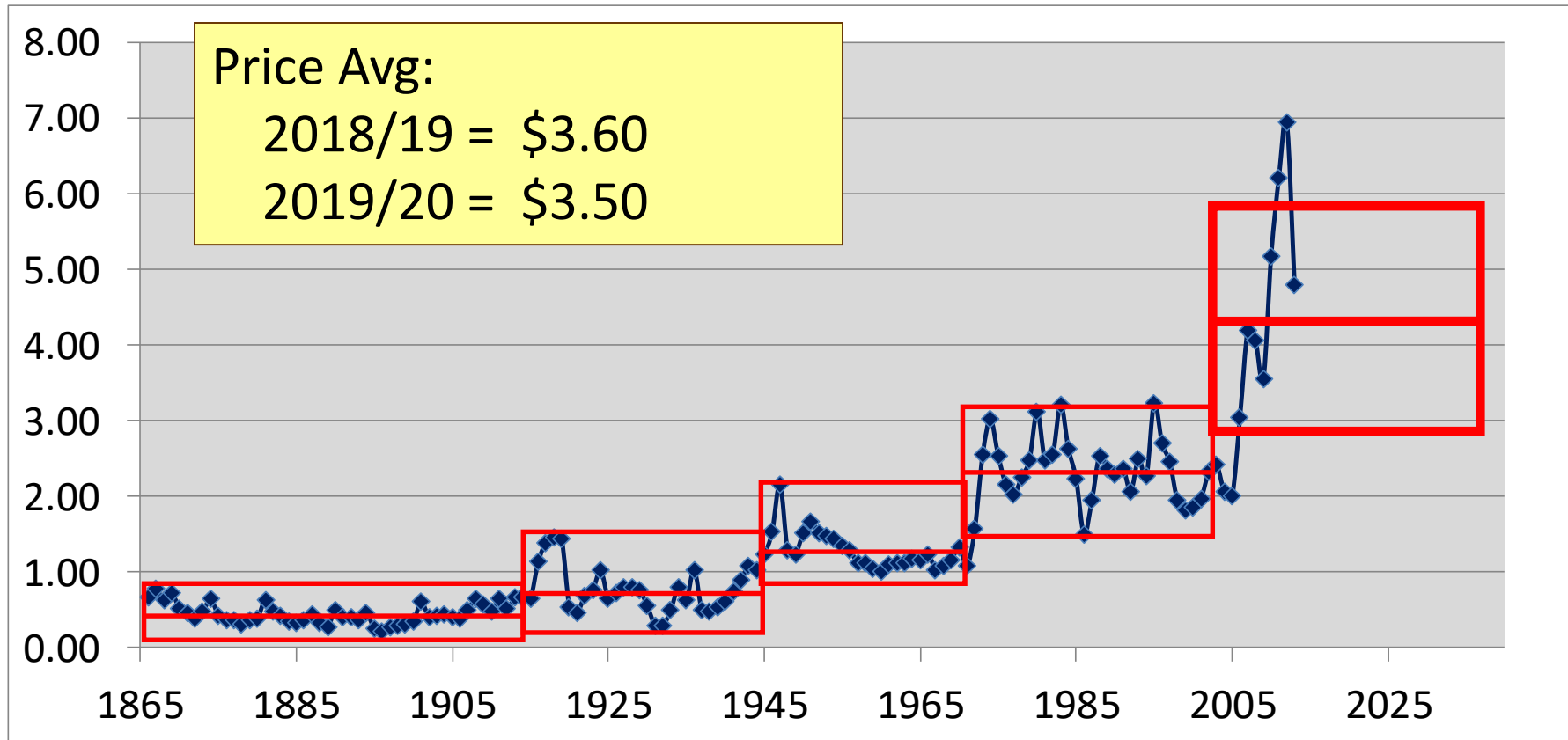


Data: USDA-ERS

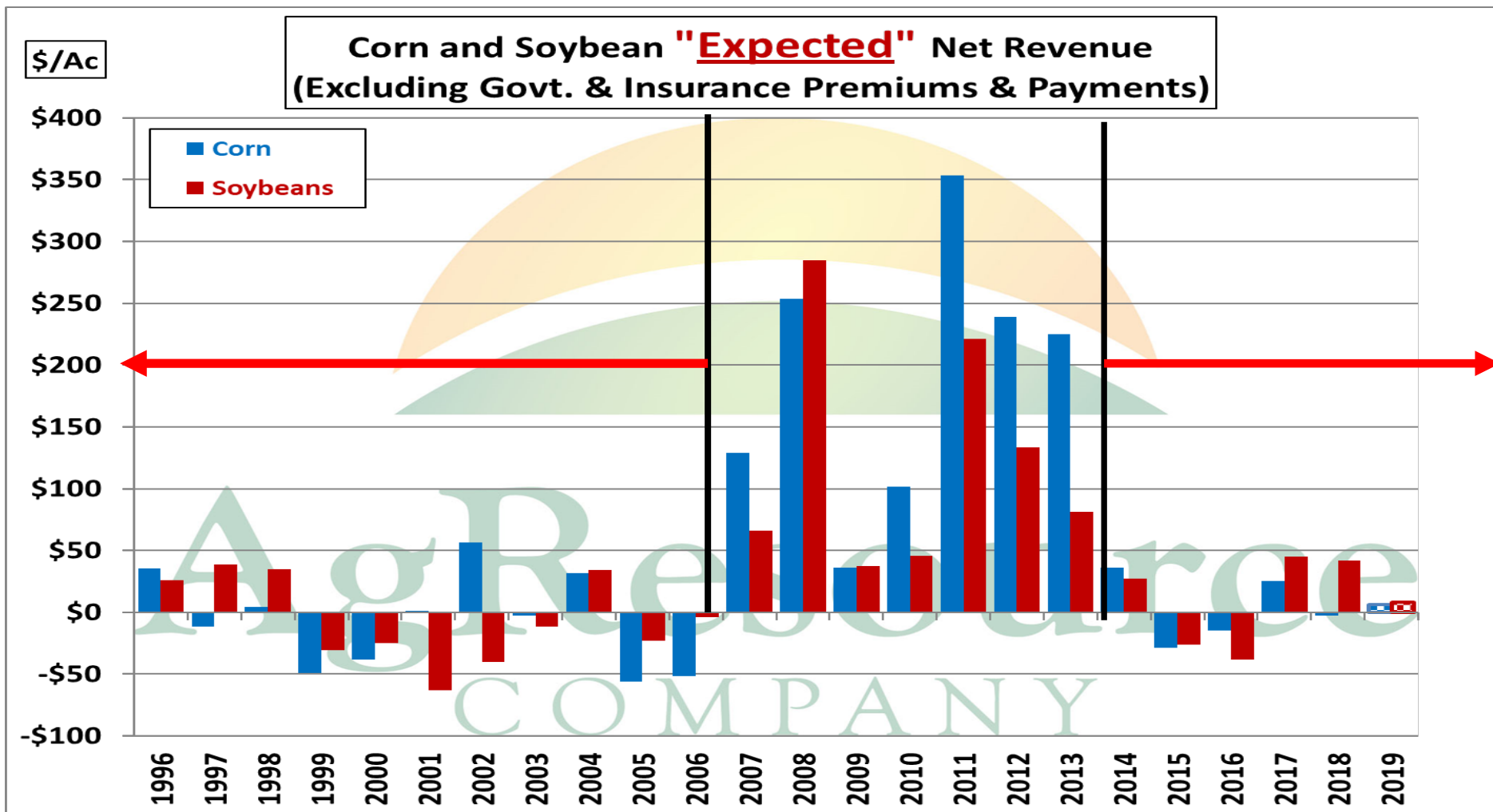
US Ag's Need For a Lasting Recovery? A New Demand Driver!



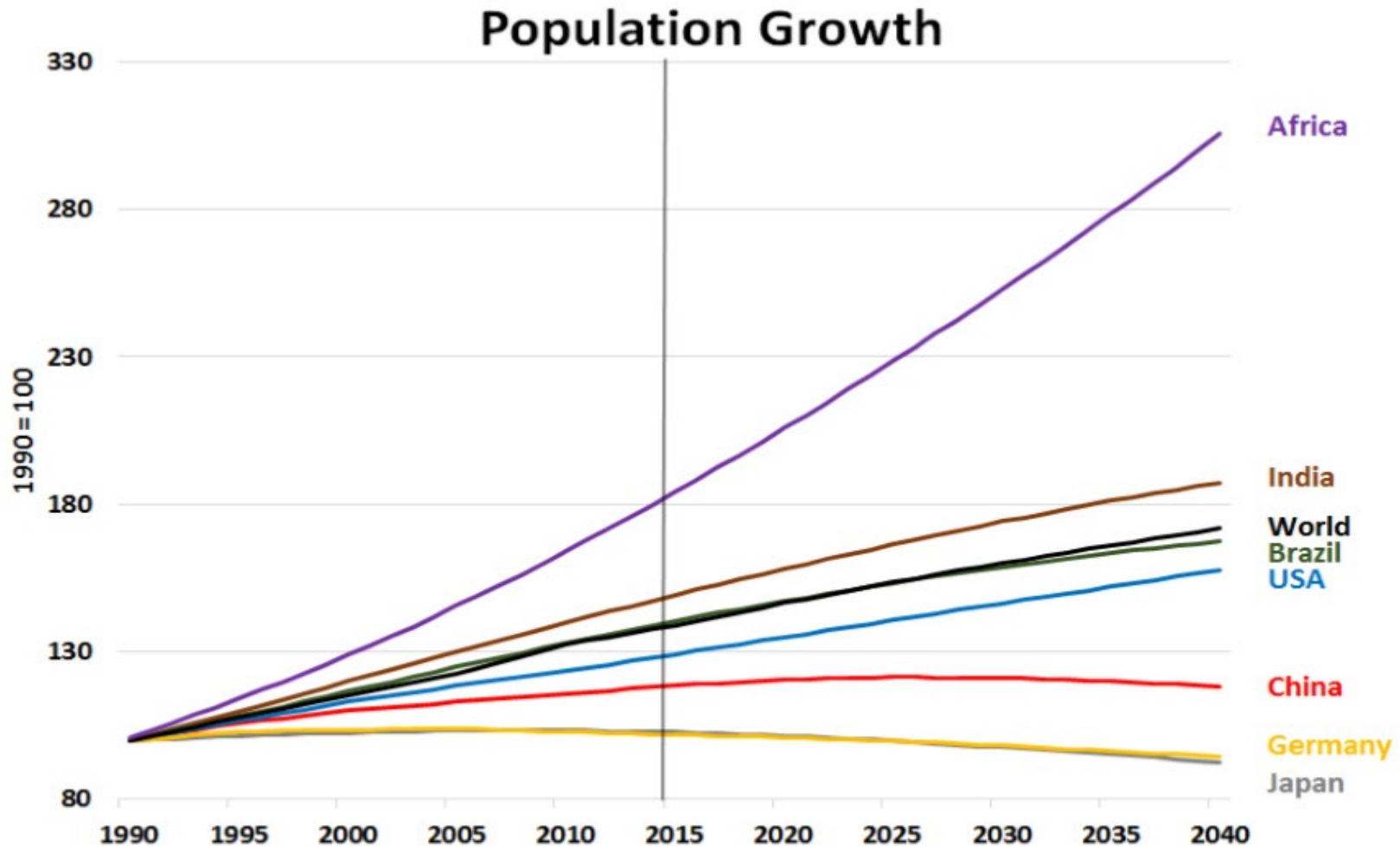
US Yearly Corn Prices - Plateau Theory (Nominal Corn Prices, 1866-2016)



US Farmer Net Revenue Shows Need for Another Demand Driver



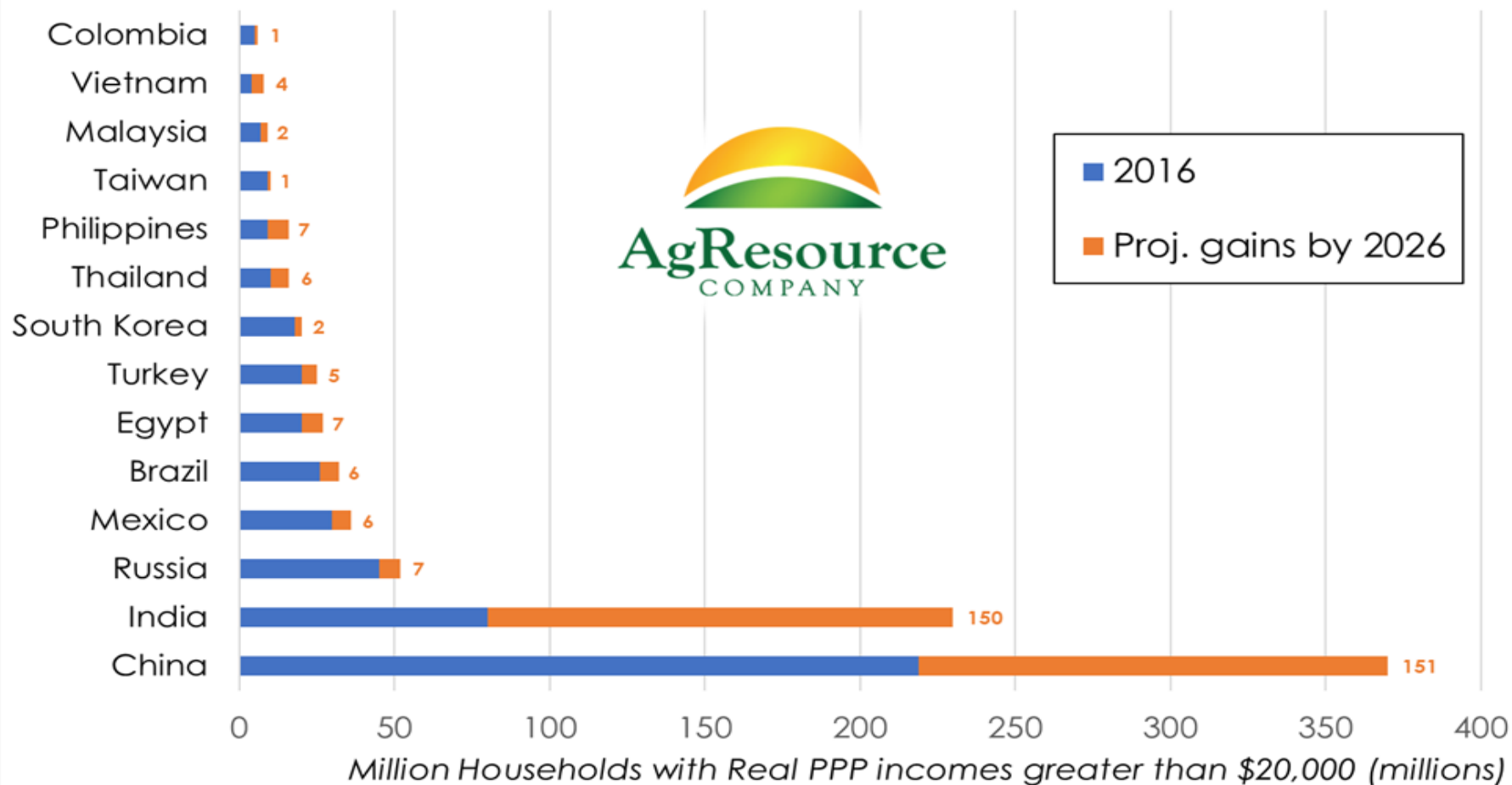
Long Term; Africa has to Drive Enlarged Wheat Demand



Source: US Census Bureau

Income Growth To Push Global Food Demand

INCOME GROWTH WILL DRIVE INCREASED GLOBAL DEMAND

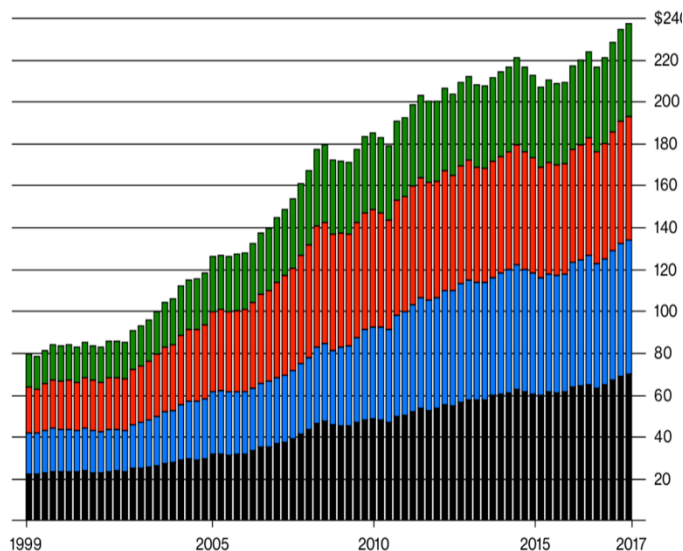


A World Awash Debt!

A \$237 Trillion Record

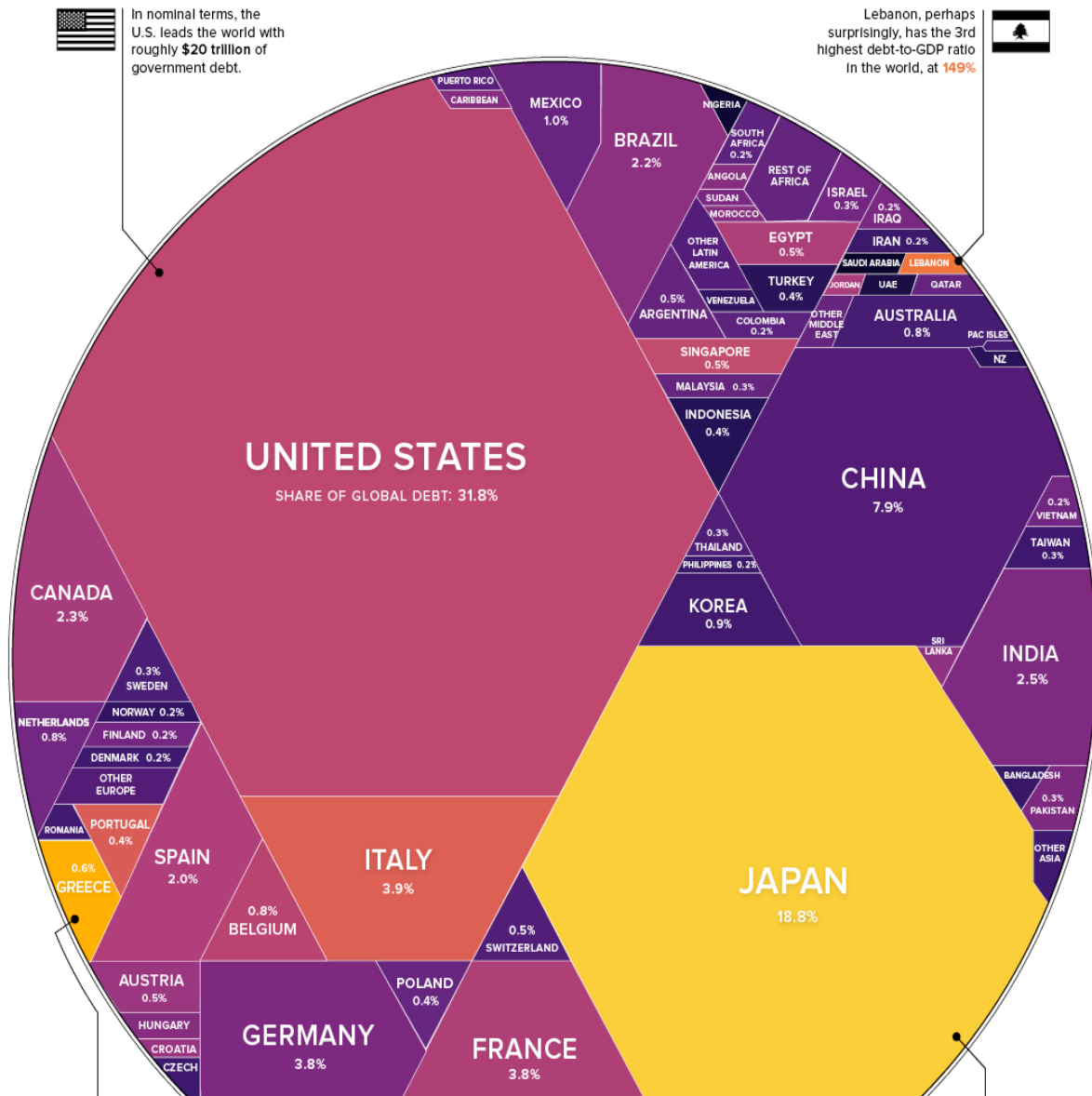
Global debt climbed by 42 percent in the fourth quarter from a decade earlier

■ Non-financial corporates ■ Government ■ Financial corporates ■ Households



Percentage of World Debt

BY COUNTRY



In nominal terms, the U.S. leads the world with roughly \$20 trillion of government debt.

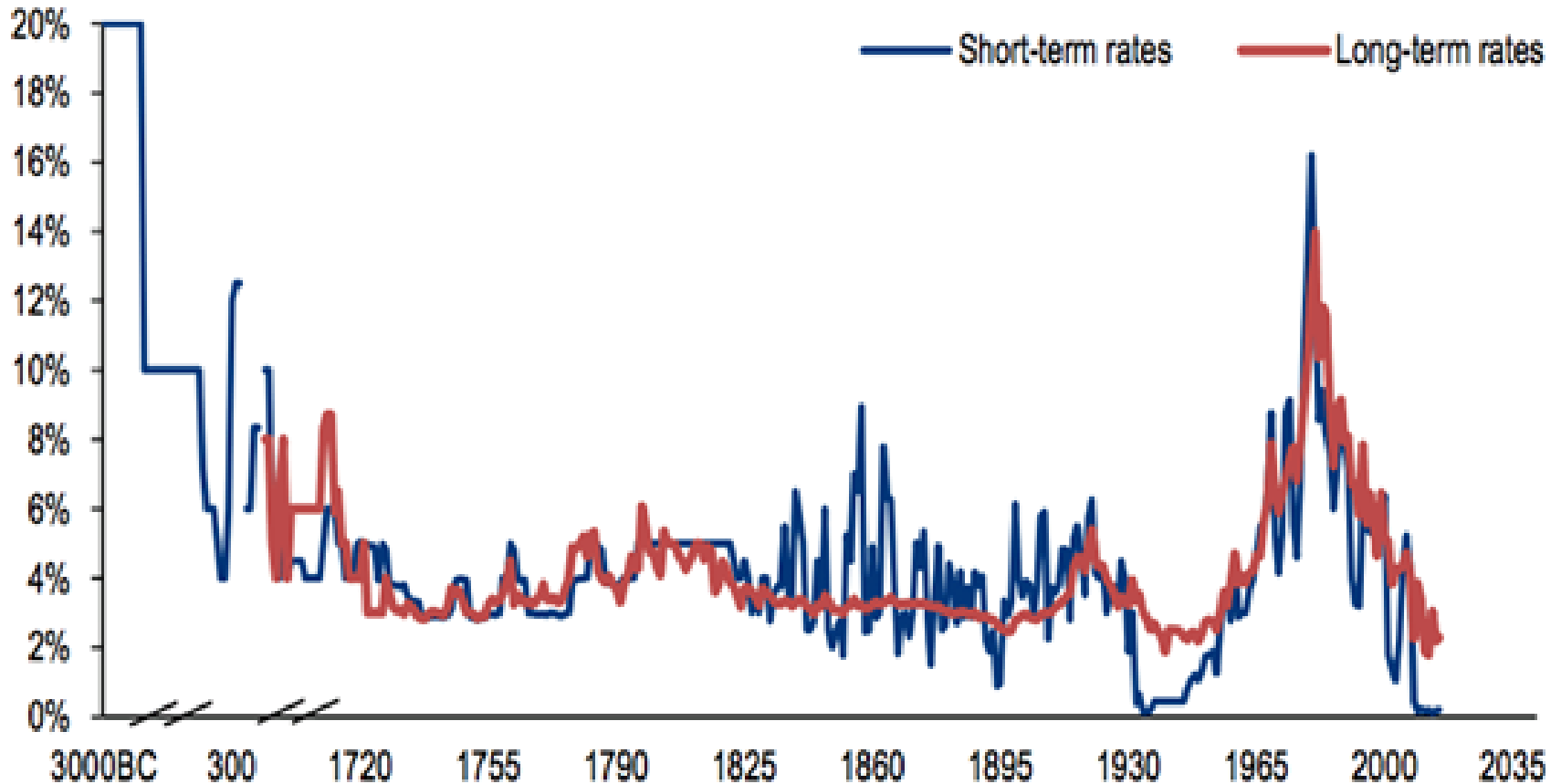


Lebanon, perhaps surprisingly, has the 3rd highest debt-to-GDP ratio in the world, at 149%

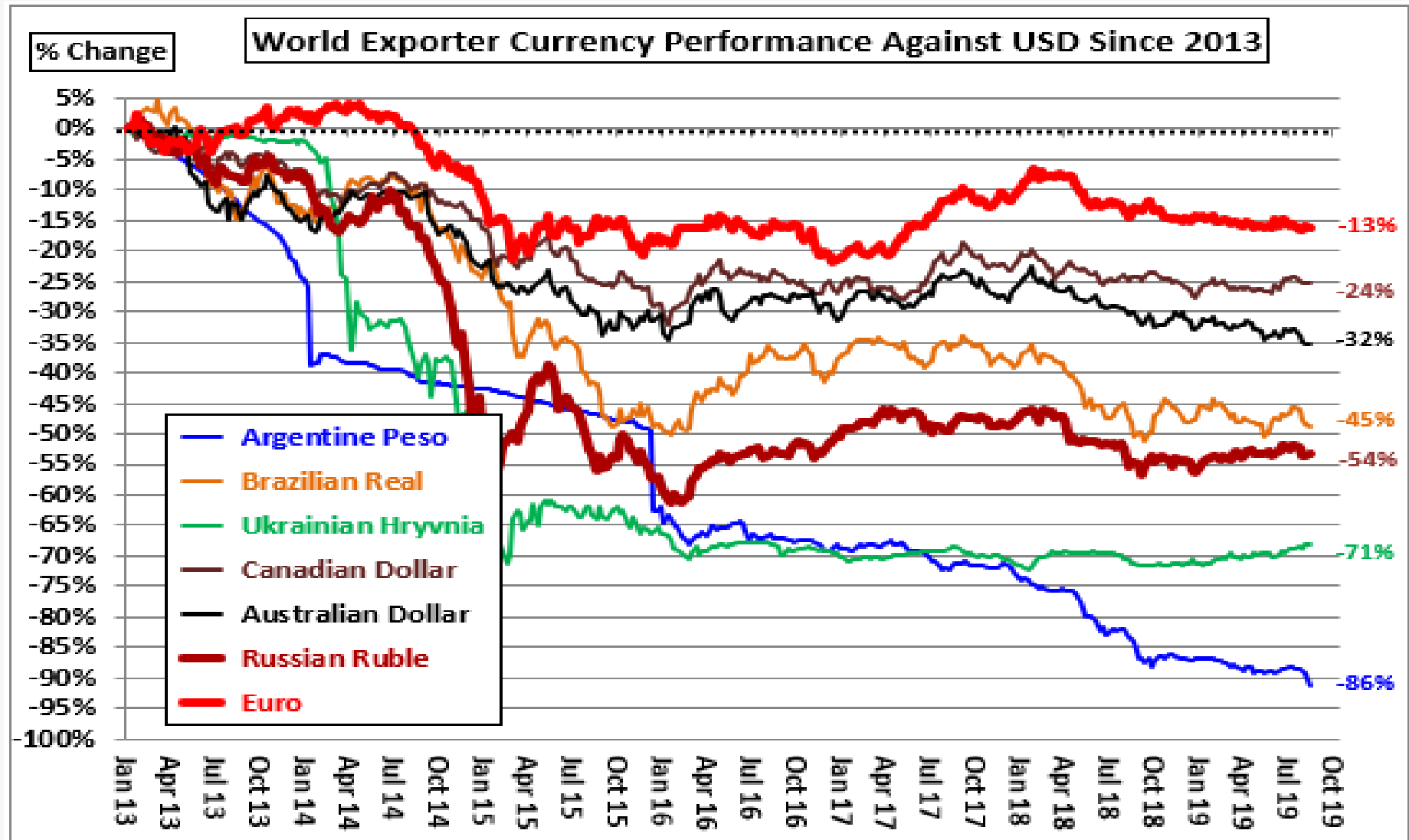
China, India and Sub Sahara Africa GDP is slowing in Each Decade



Average World Bank Lending Rates – Since 3000 BC – 1/3 of World Negative Interest Rates TODAY!



Exchange Rates Favor Non US Farmers – Margins Continue Expansion Overseas



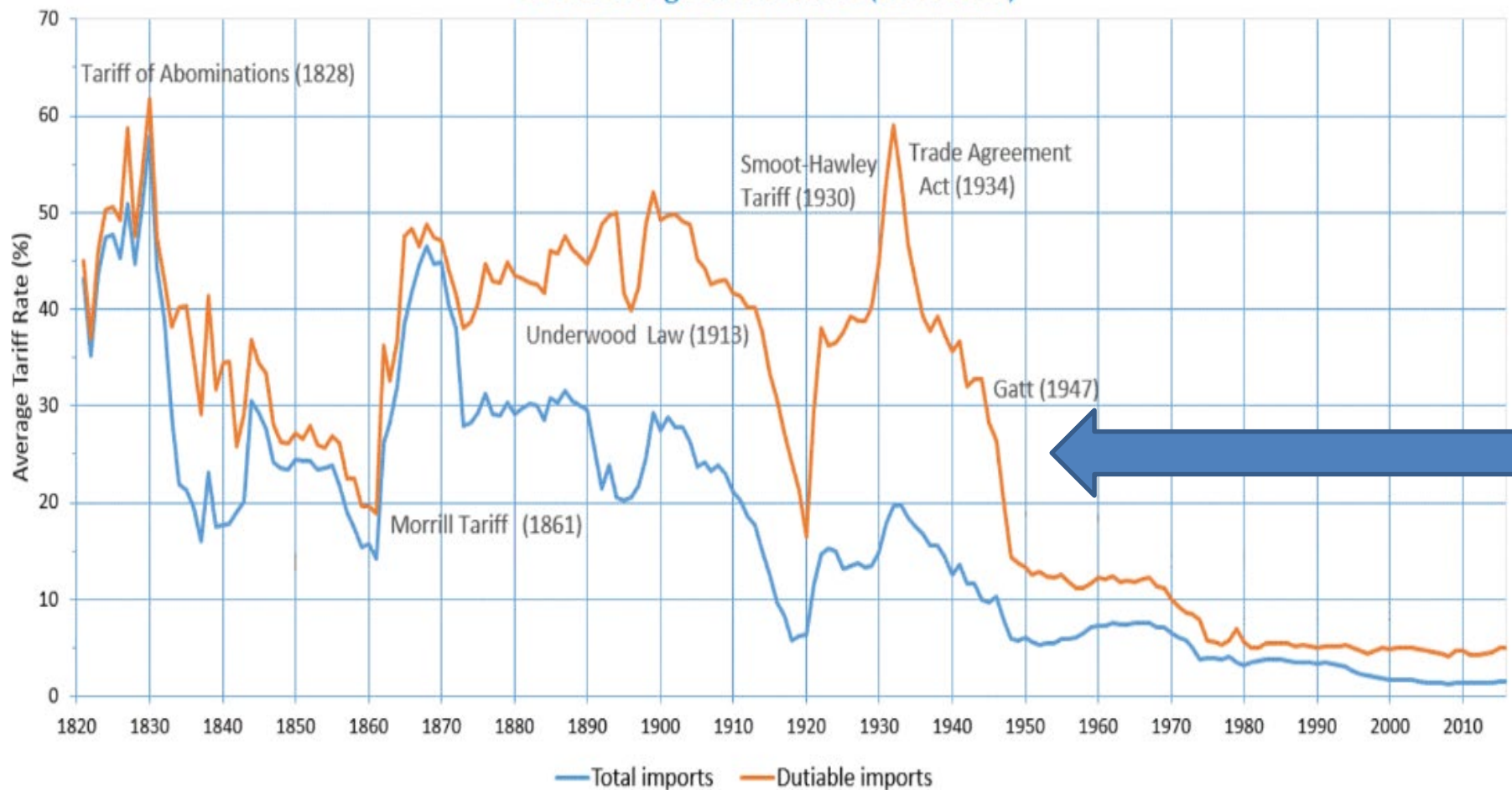
Fighting for American Jobs

- China and India will be #1 and #2 in terms of the world economy in 10-15 Years. The US's political and economic prowess is in decline!
- De-dollarization over time?



US Tariffs Rise to Post WW II Levels

U.S. Average Tariff Rates (1821-2016)

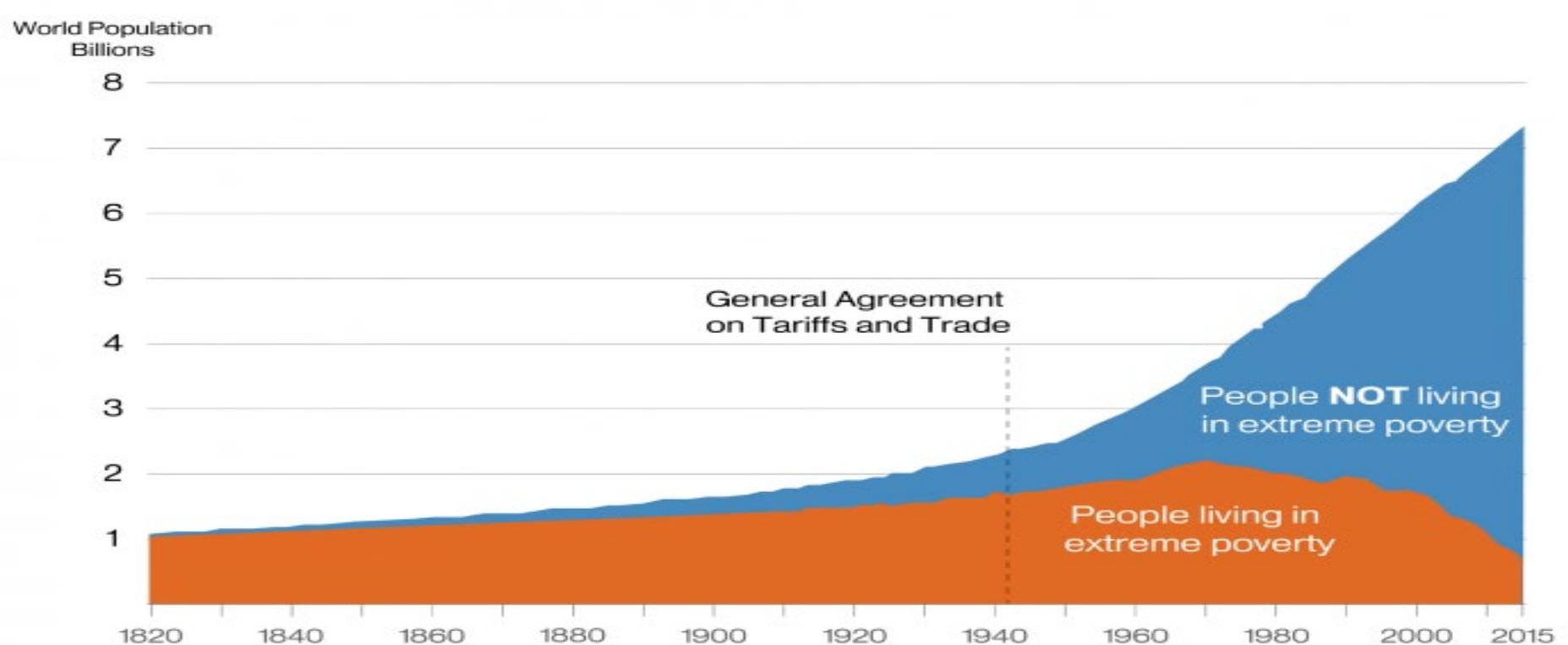


Source: US Department of Commerce, Bureau of the Census, Historical Statistics of the United States 1789-1945, U.S. International Trade Commission, dataweb.usitc.gov

Free Trade Has Produced Huge Benefits since GATT started in 1940

World Population Living in Extreme Poverty, 1820-2015

Extreme poverty is defined as living at a consumption (or income) level below 1.90 "international \$" per day. International dollars are adjusted for price differences between countries and for price changes over time (inflation).

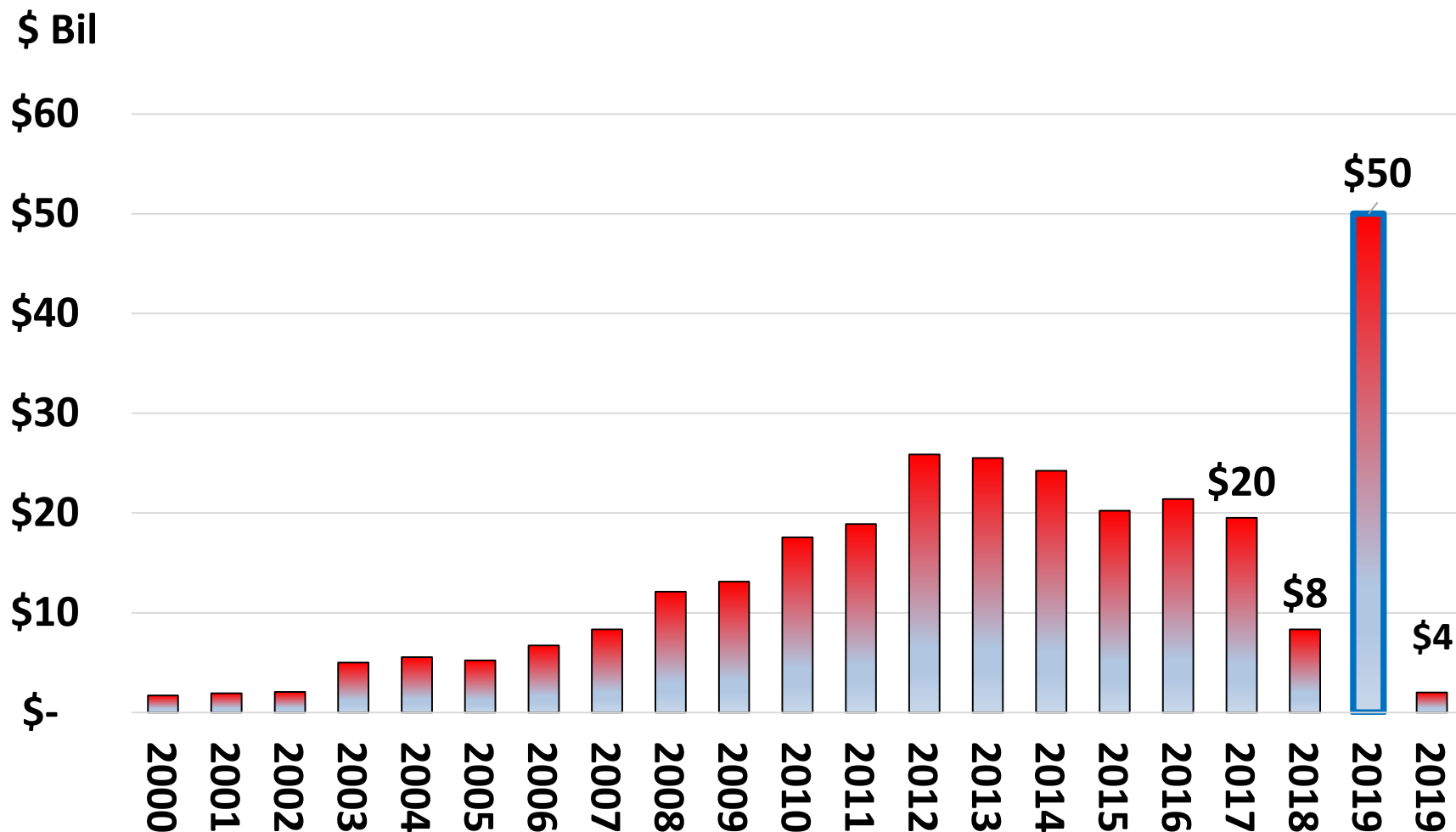


Source: 1820-1992 Bourguignon and Morrison (2002) Inequality Among World Citizens
1981-2013 World Bank data
Max Roser and Esteban Ortiz-Ospina (2018)

US/China Trade Dispute – What is the Solution?



Value of US Ag Exports to China

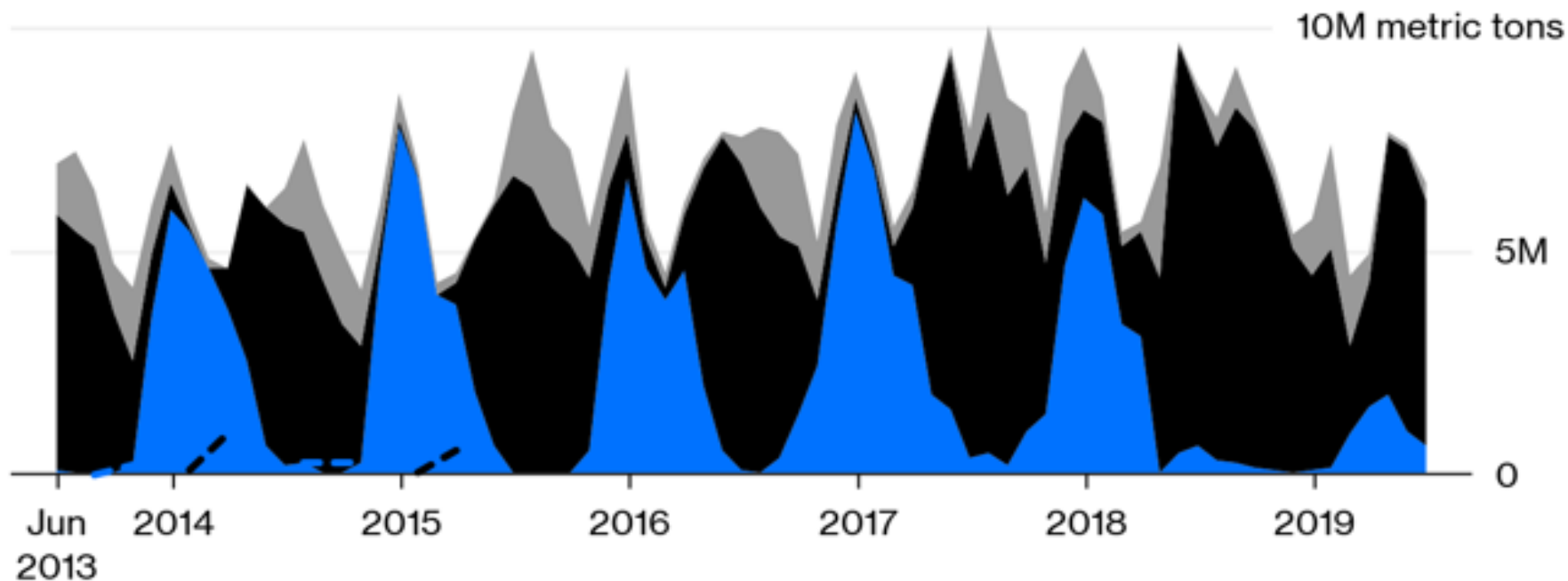


Notice the Big Change in Soybean Trade Flows by Month

Gone in 60 Seconds

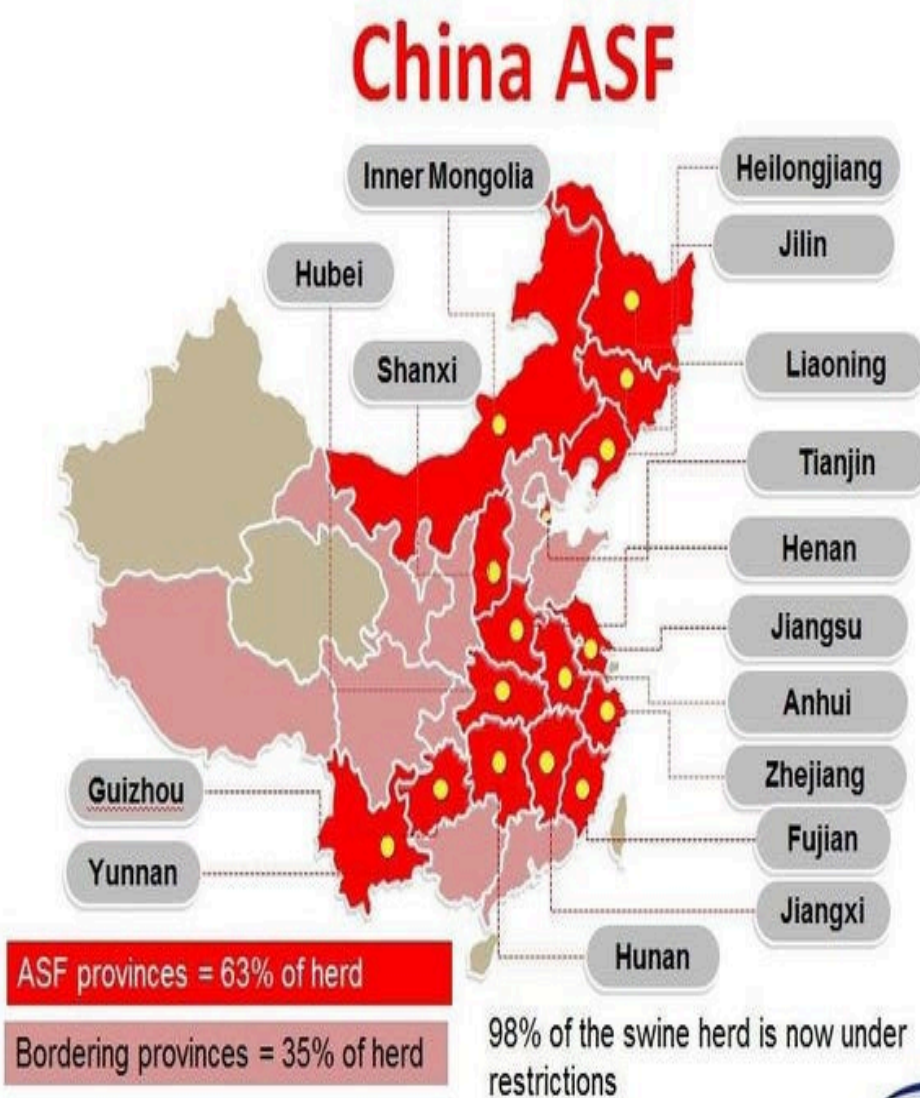
Chinese imports of American soybeans have all but dried up over the past year

■ U.S. ■ Brazil ■ Other



Source: China Customs General Administration, Bloomberg, Bloomberg

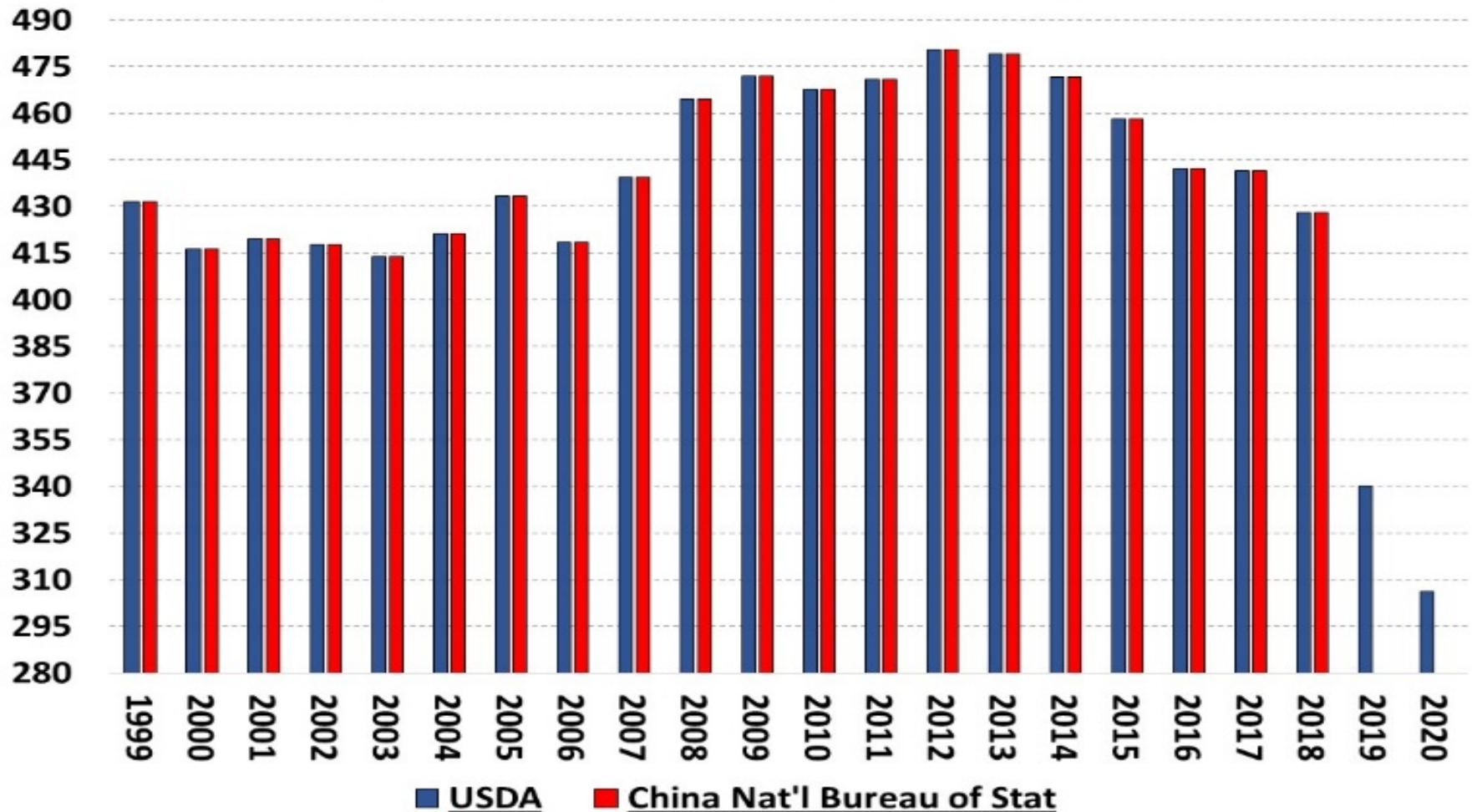
China's Biggest Threat



Attaché: Hog herd will drop 29% from 2019, and drop again in 2020. Official estimates 21-26%.

Mil Head

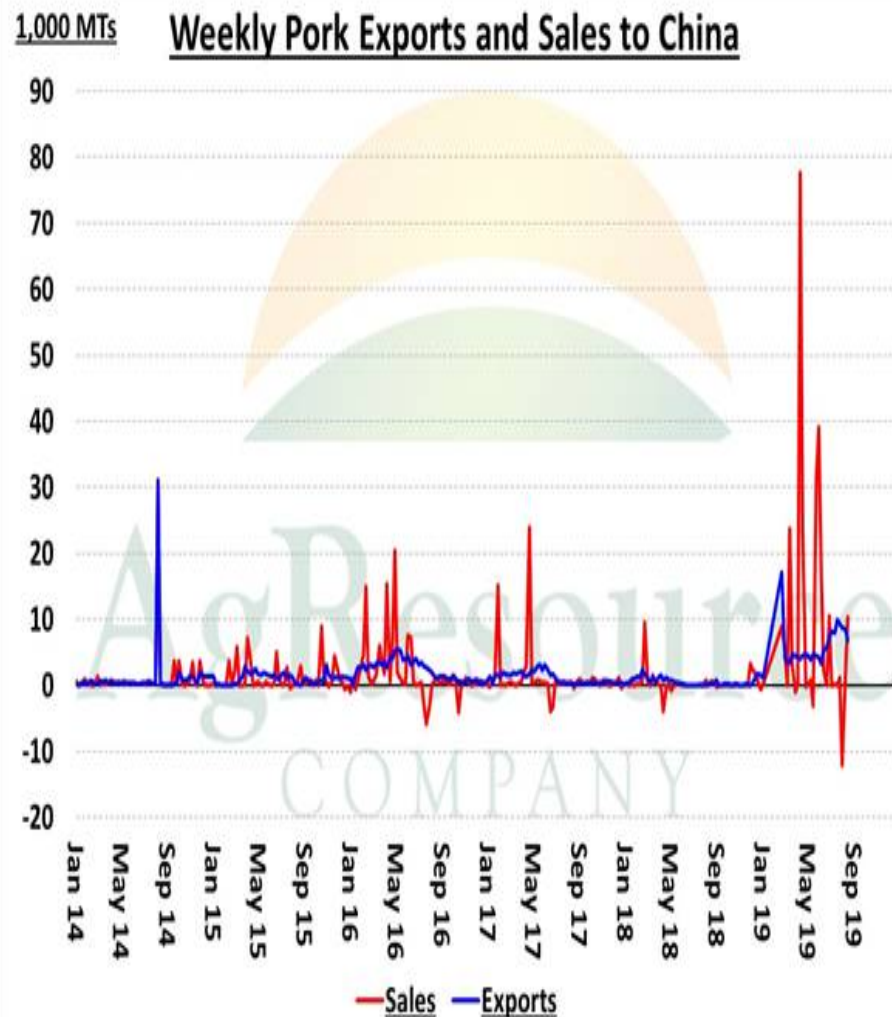
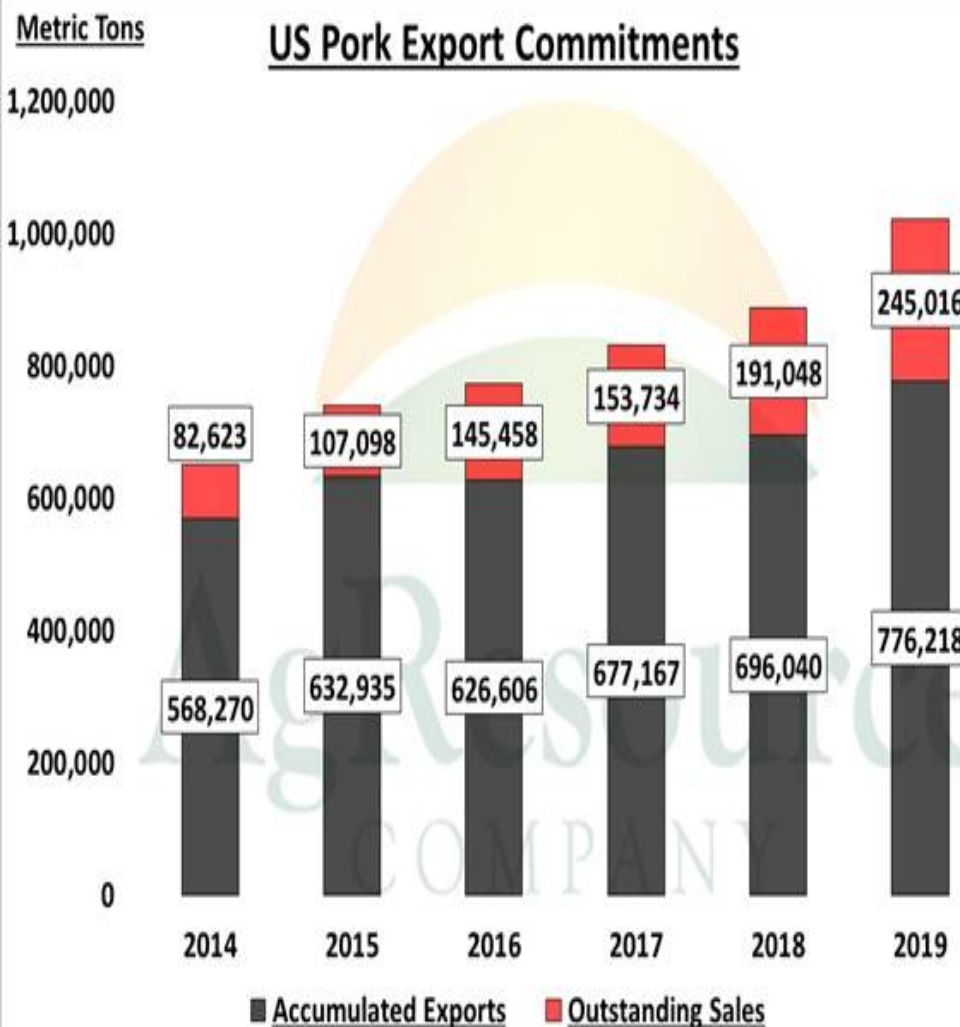
China Year End Hog Inventory



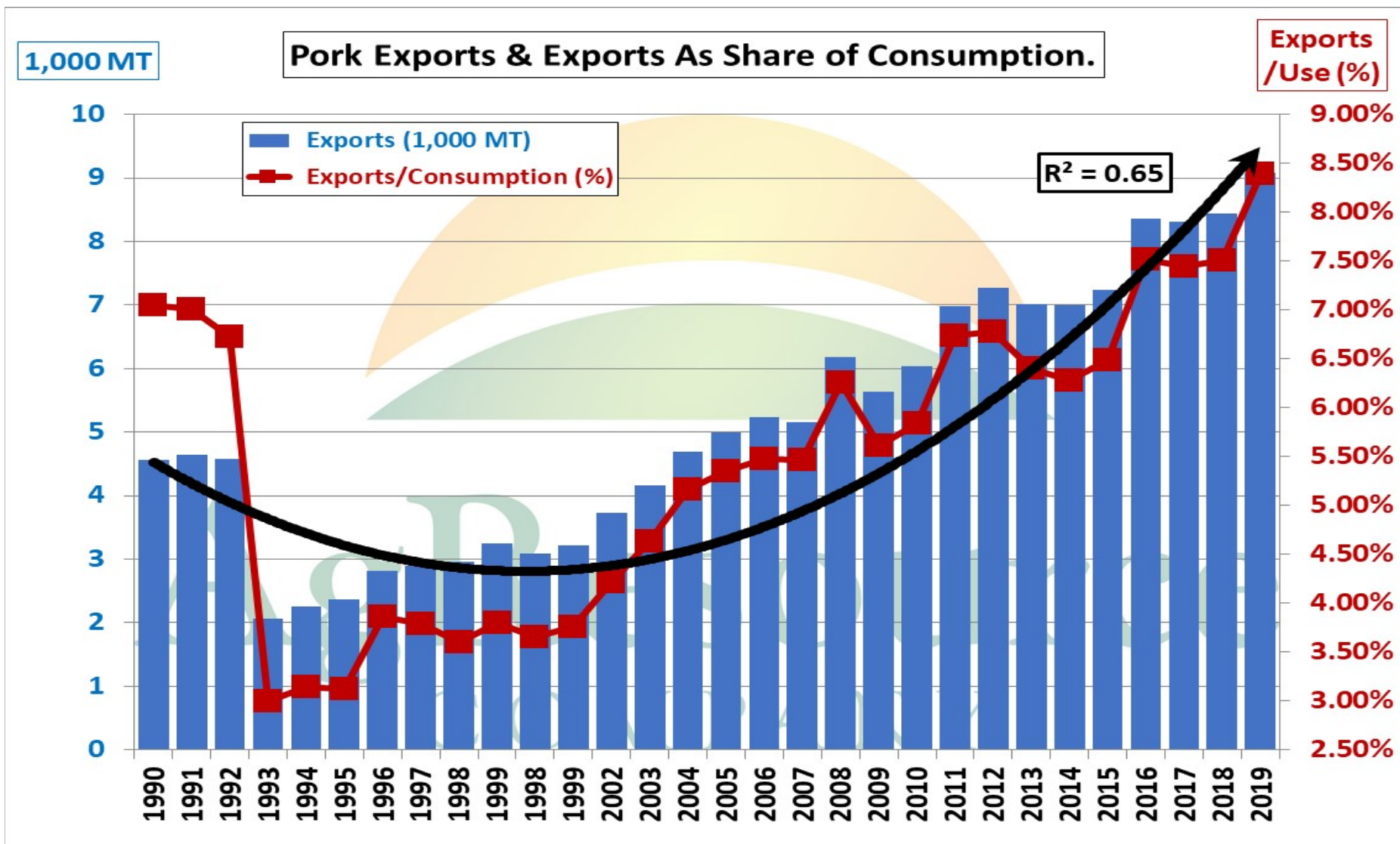
Chinese Hog Prices Rally Sharply; Broiler Prices Surprisingly Decline



US Pork Sales Were Solid to China until August 2nd Ban on Retaliation

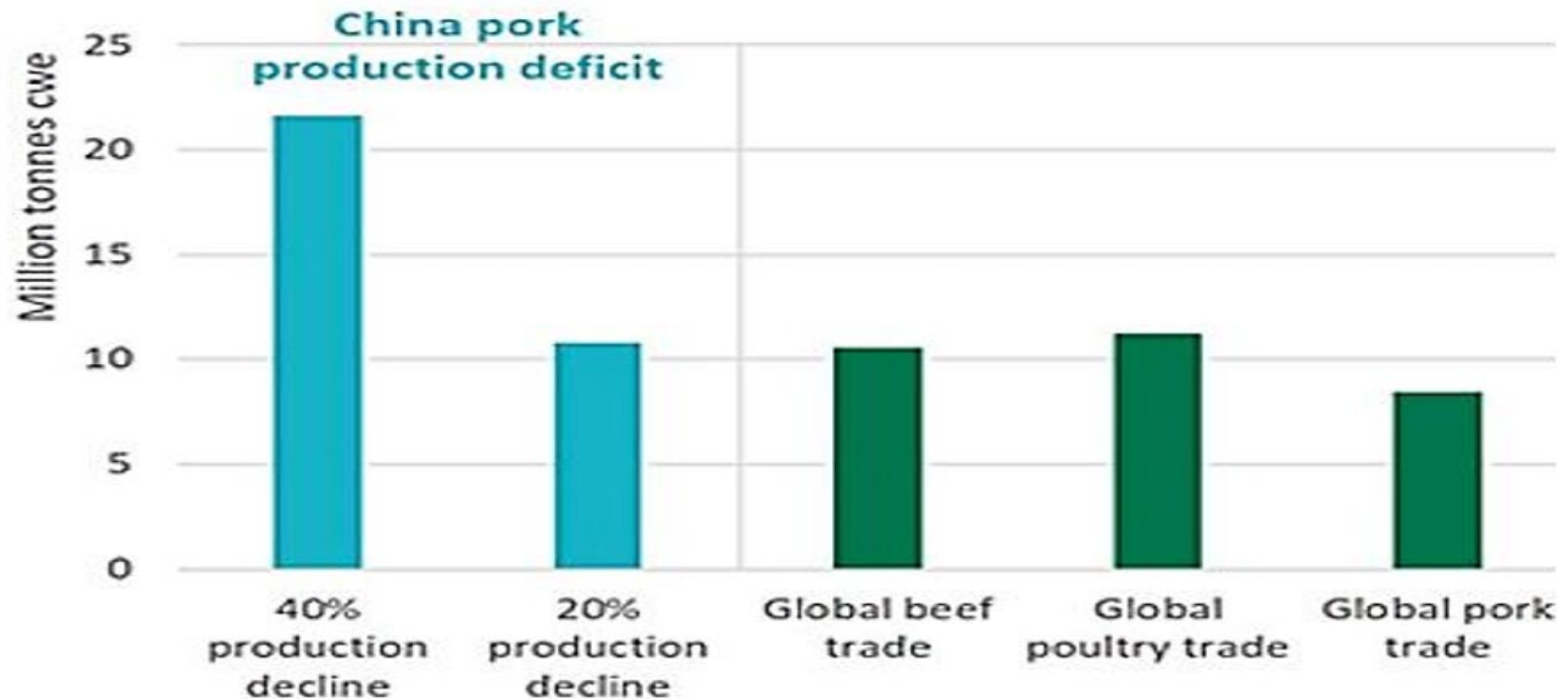


World Pork Exports To Record Highs; China Secures EU and Brazilian Pork



China ASF is just BIG!

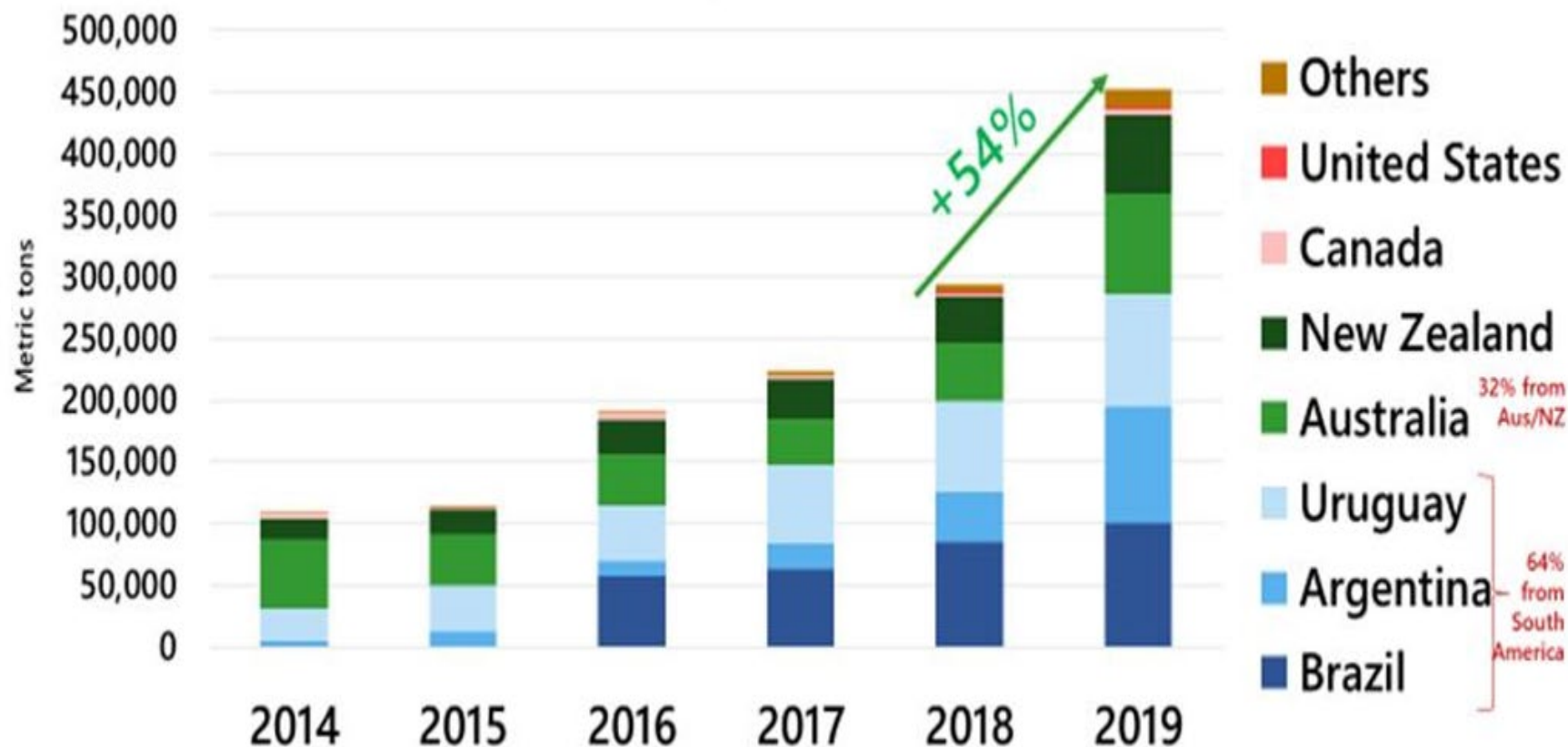
Putting ASF pork shortage into perspective



Source: MLA, ABS, USDA
All based off 2018 figures

China Beef Import Demand Rising Sharply – US Not Participating

China's Beef & Variety Meat Imports: Jan-April series

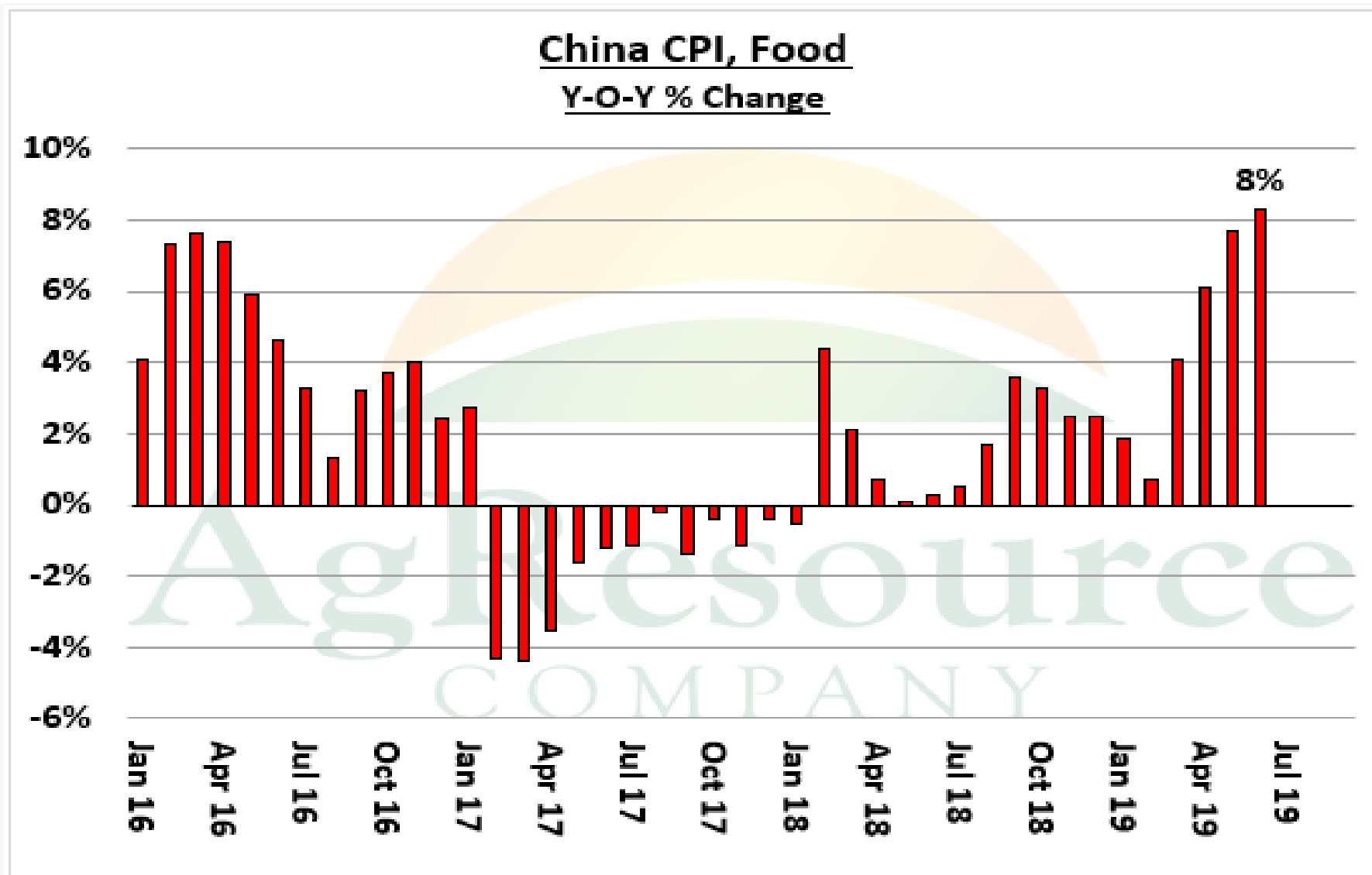


China Seeking Meat (Beef) from Non Traditional Suppliers

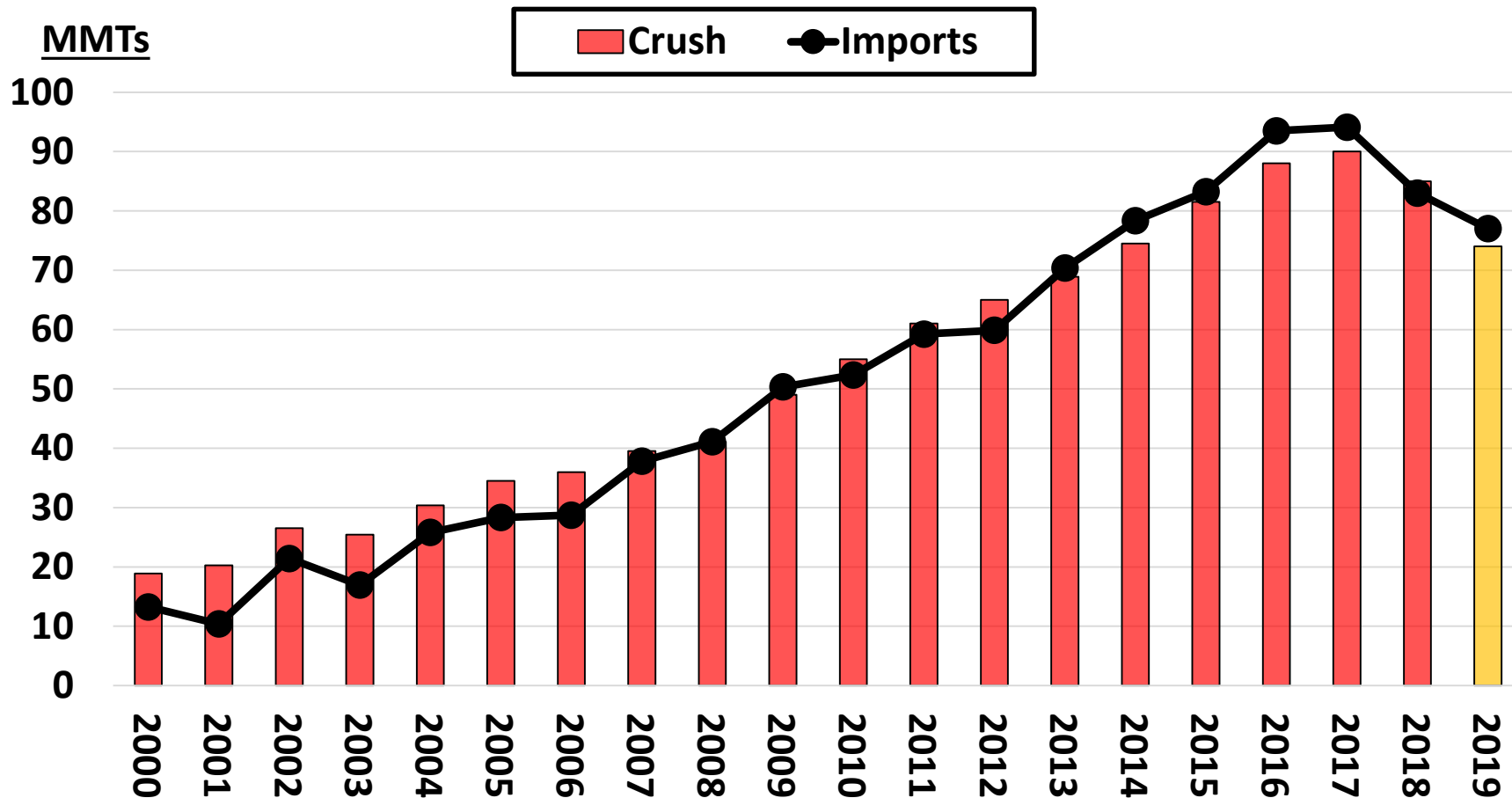


June 25 2019 First shipment of Namibian beef arrives in China

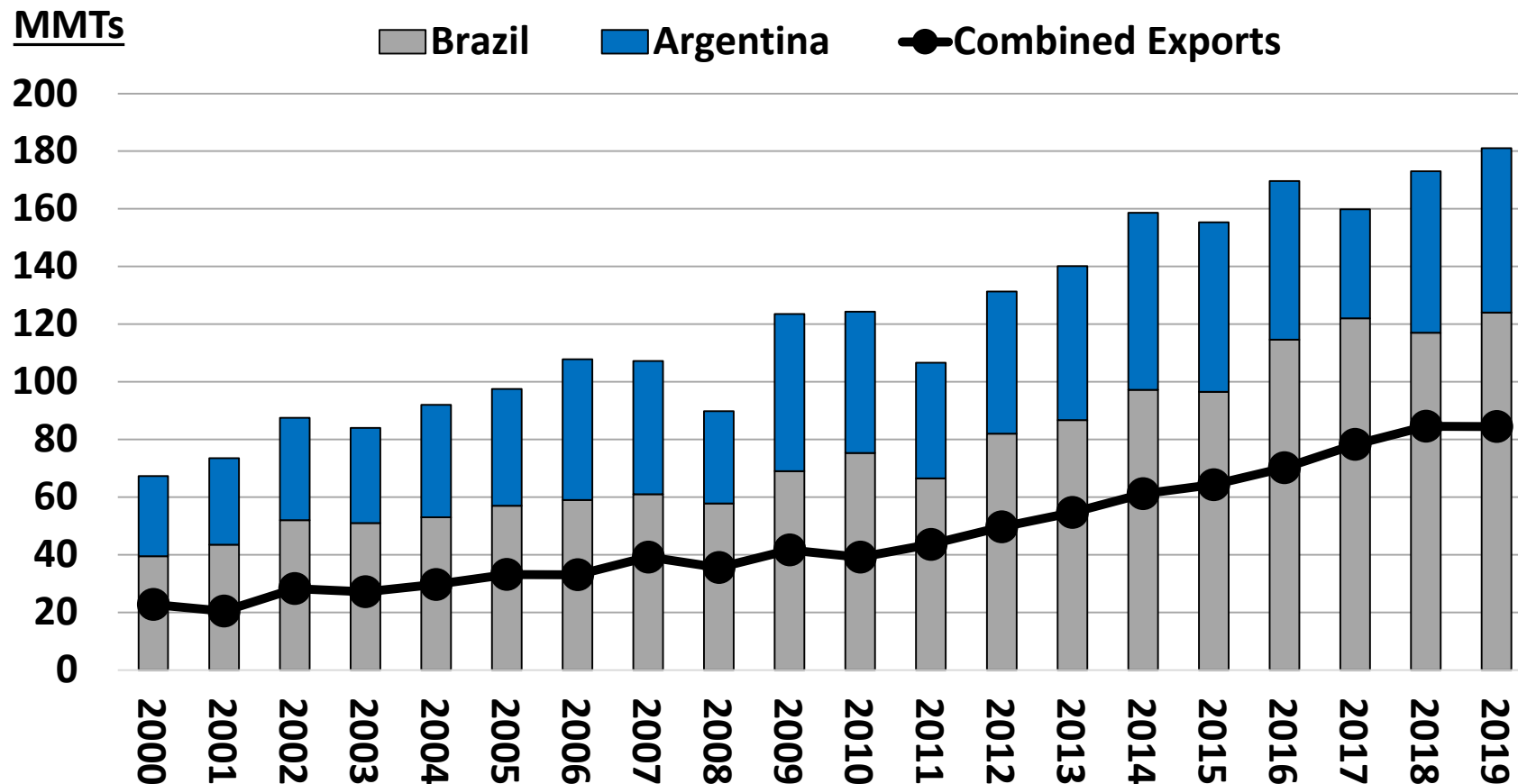
Chinese Food Inflation Is Rising



Chinese Annual Soybean Crush and Imports Since 2000 – Was to Be 107 MMTs in 2020!



Brazilian/Argentine Soybean Production and Exports

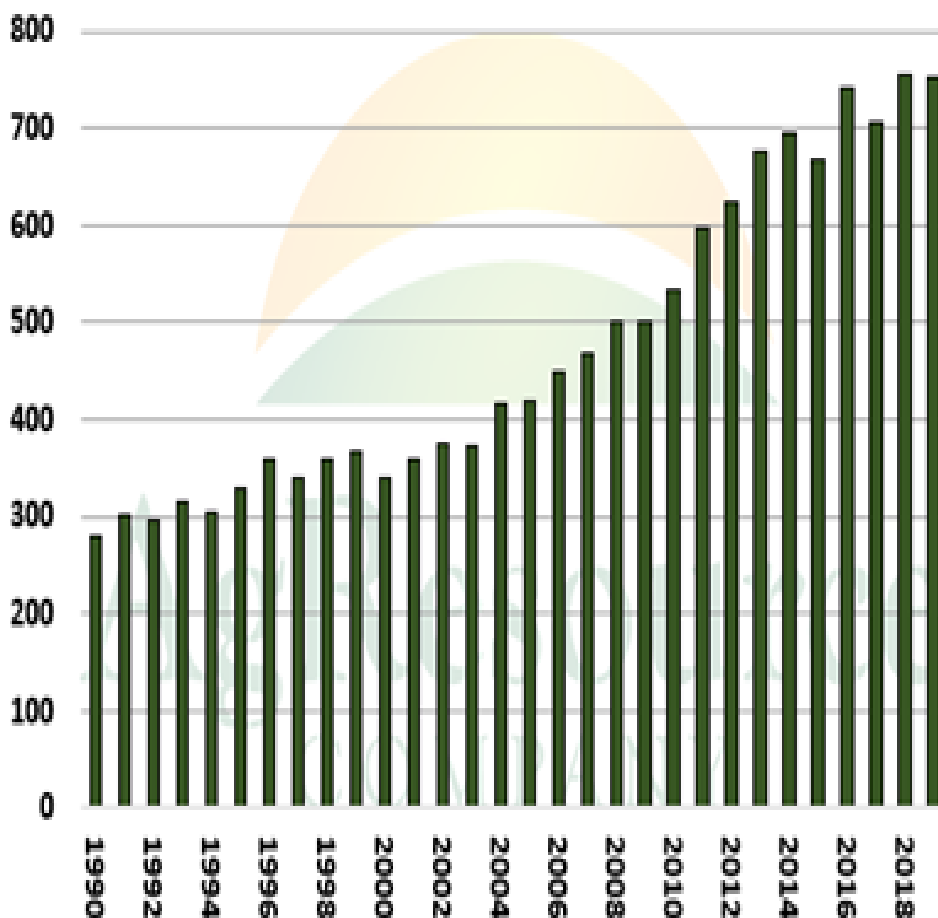


Longer US/China Trade War Lasts: Advantage South America!



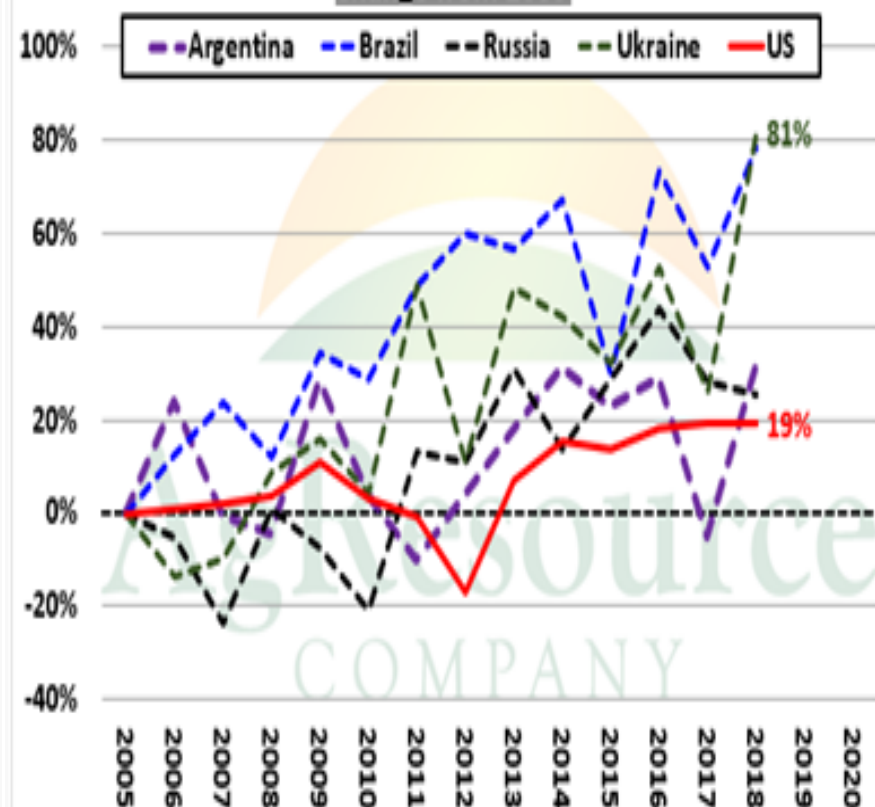
Growing Potential for Non US Corn Production -

MMTs Non-US Corn Production



Major Exporter Corn Yields

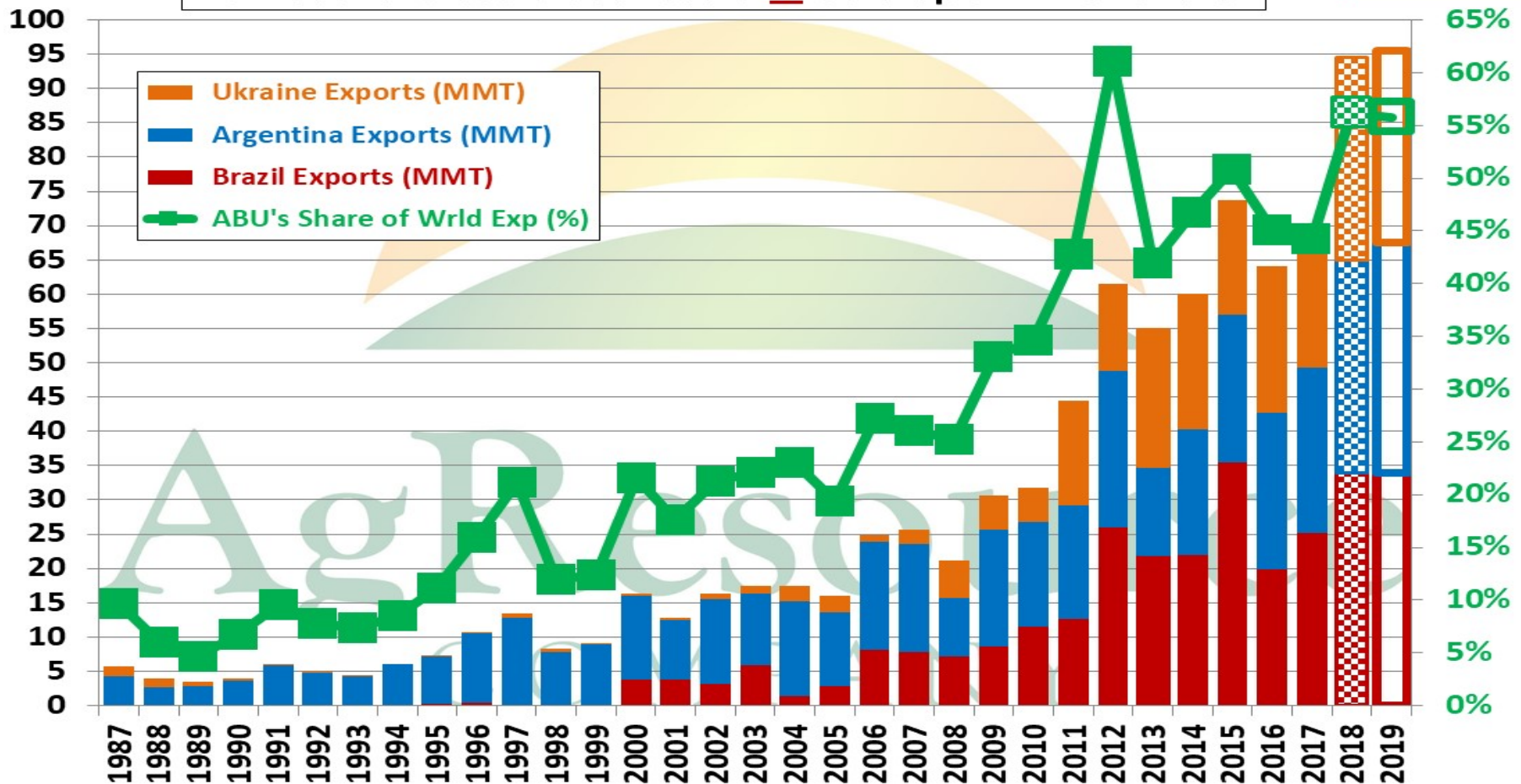
Change from 2005



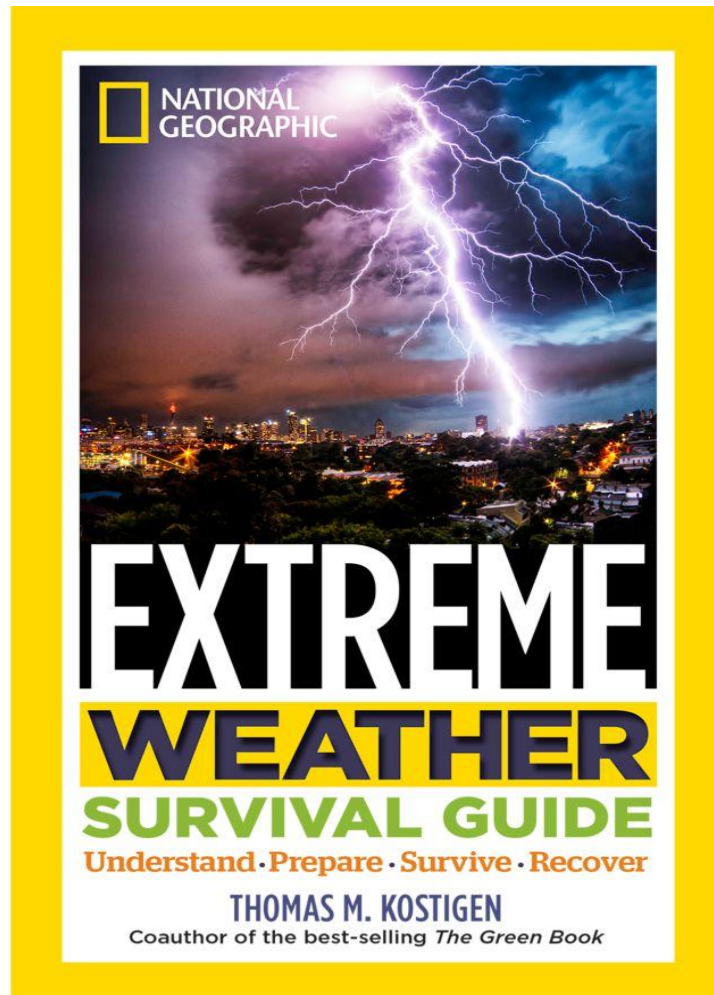
ABU's Account For 57-62% of Global Corn Exports!

ABU's To Capture 57% of World Corn Exports in 2019/20. Market Share Could Set Record IF US Crop Shrinks Further.

Share World Exports (%)

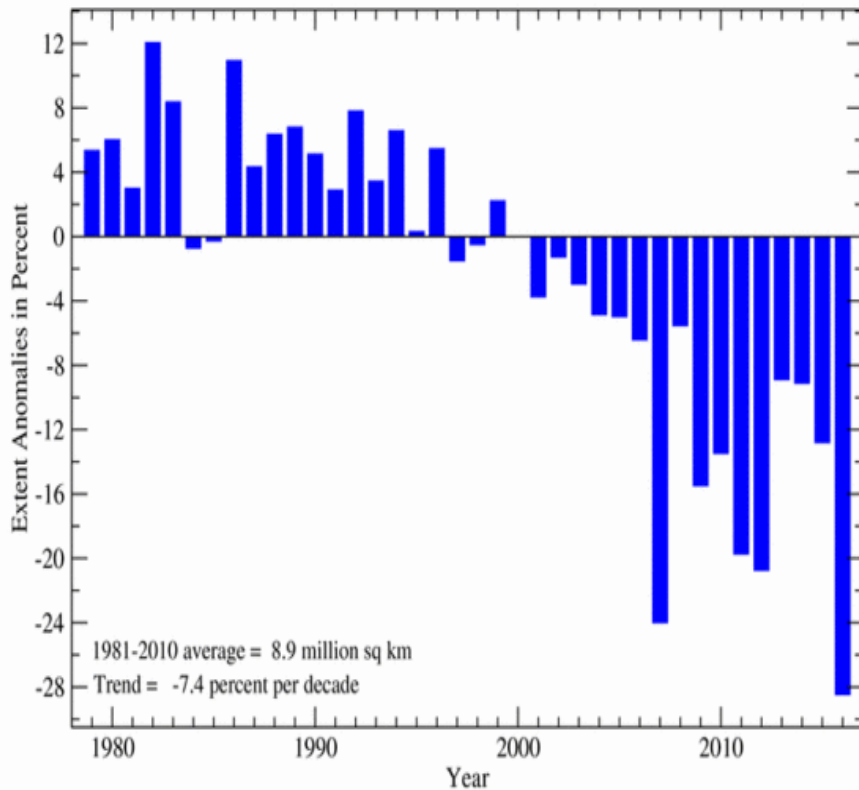


Climate Change is Real - More Sporadic Future Grain Supply?



Poles Are Warming Dramatically which is Slowing the Jet Stream Allowing for "Pattern Stagnation"

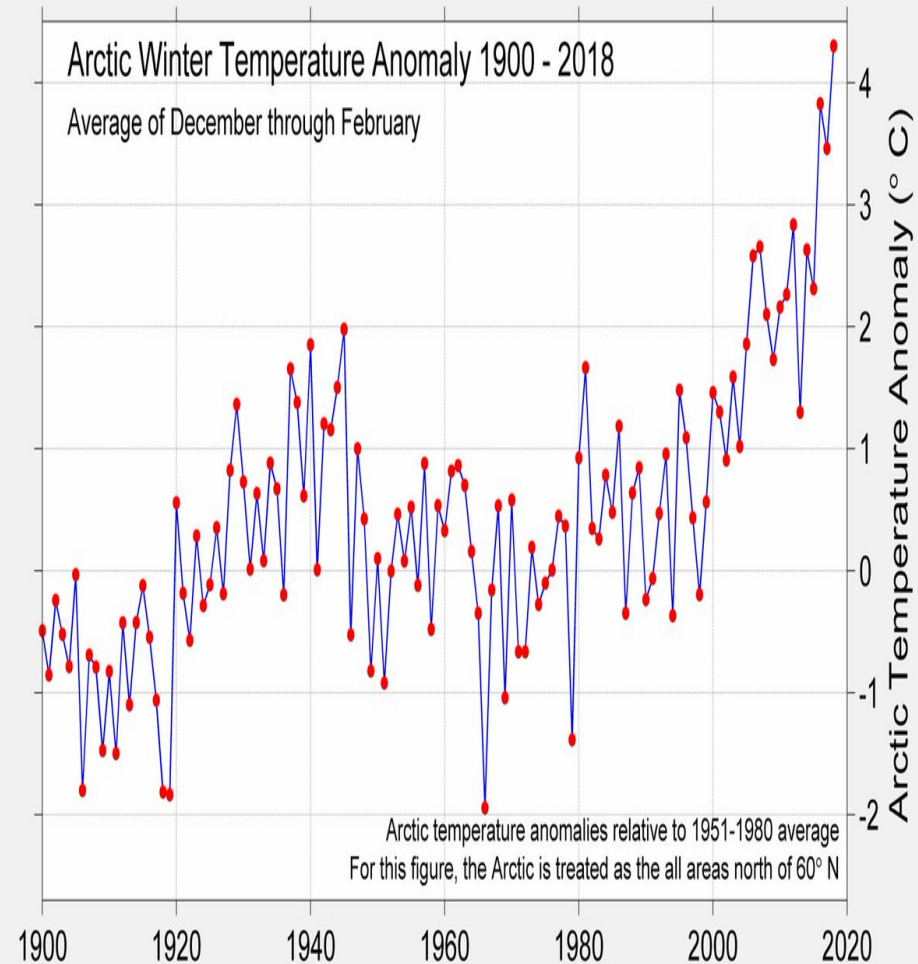
Northern Hemisphere Sea Ice Extent
October Anomalies, 1979-2016



Data provided by the National Snow and Ice Data Center (NSIDC)

Arctic Winter Temperature Anomaly 1900 - 2018

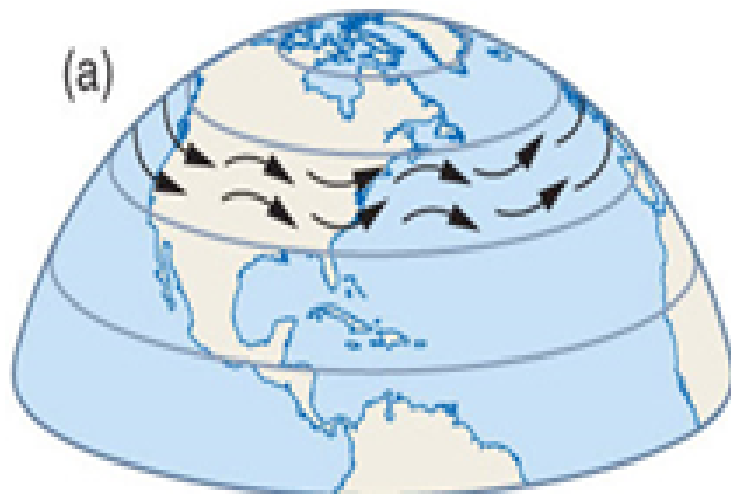
Average of December through February



Weaker Jet Stream = Stronger Storms/ Stagnant Patterns

Stronger Jet Stream
Predominantly west-to-east flow

(a)



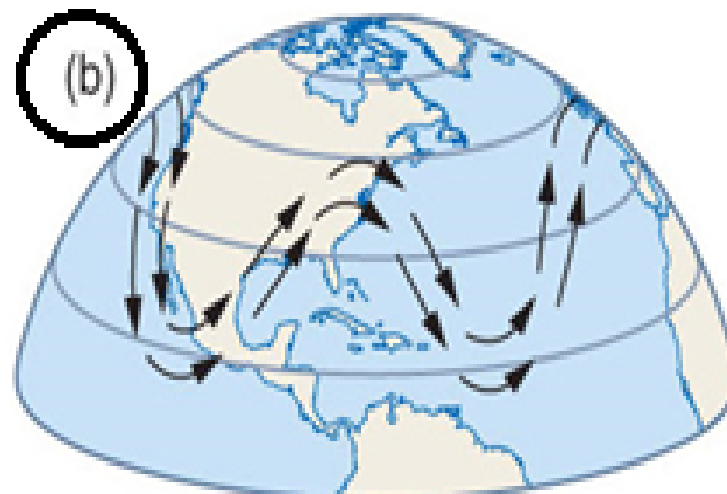
- Less variability in temperatures
 - Milder seasons
- More consistent weather pattern

Image: Jones & Bartlett Learning - www.jblearning.com

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Weaker Jet Stream
Meandering flow

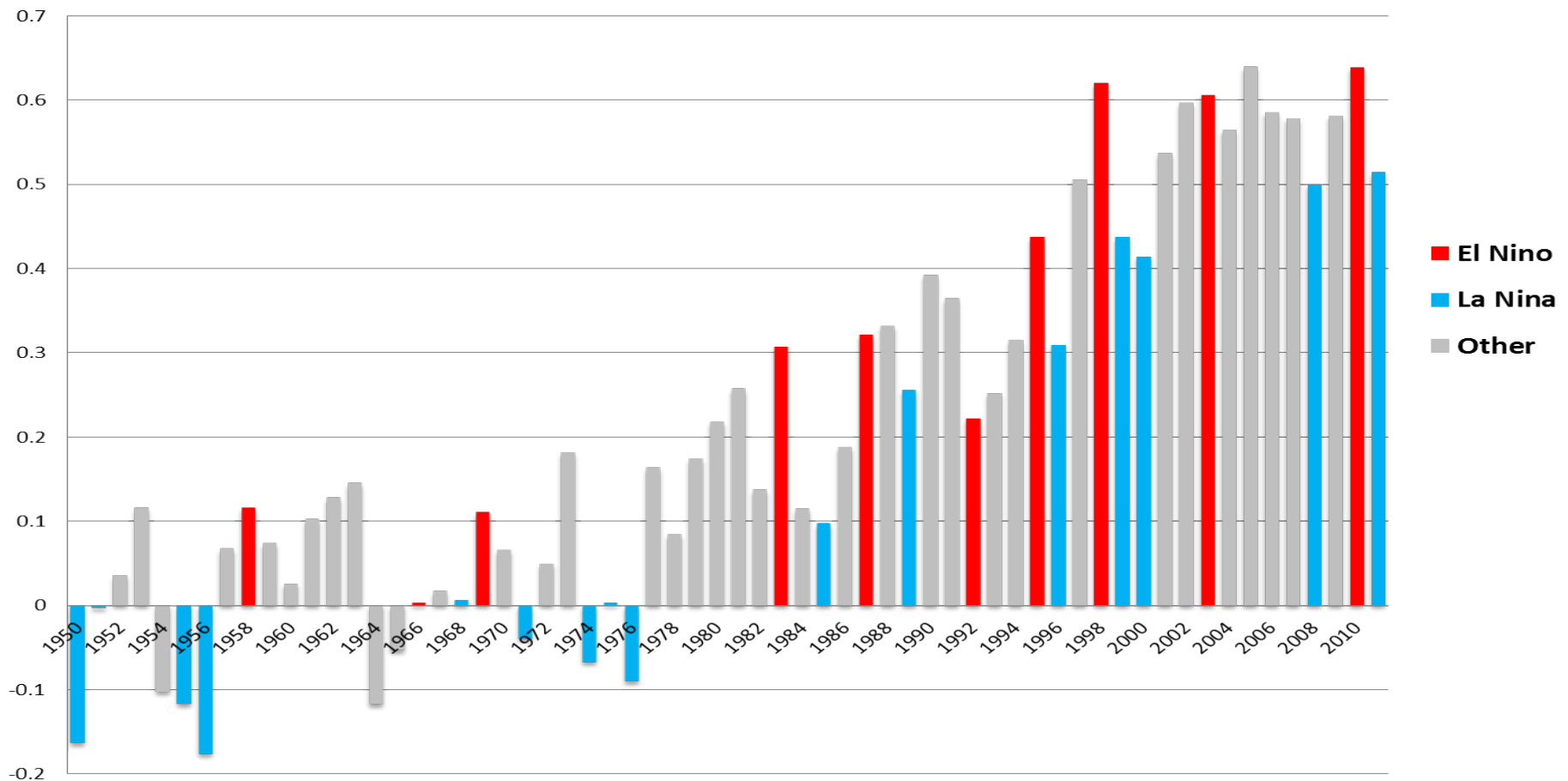
(b)



- More variability in temperatures
 - Cold air outbreaks in winter
 - Late-season frost events
- Less consistent weather pattern

Climate Change Producing More El Nino and La Nina Events – Dynamic Climate!

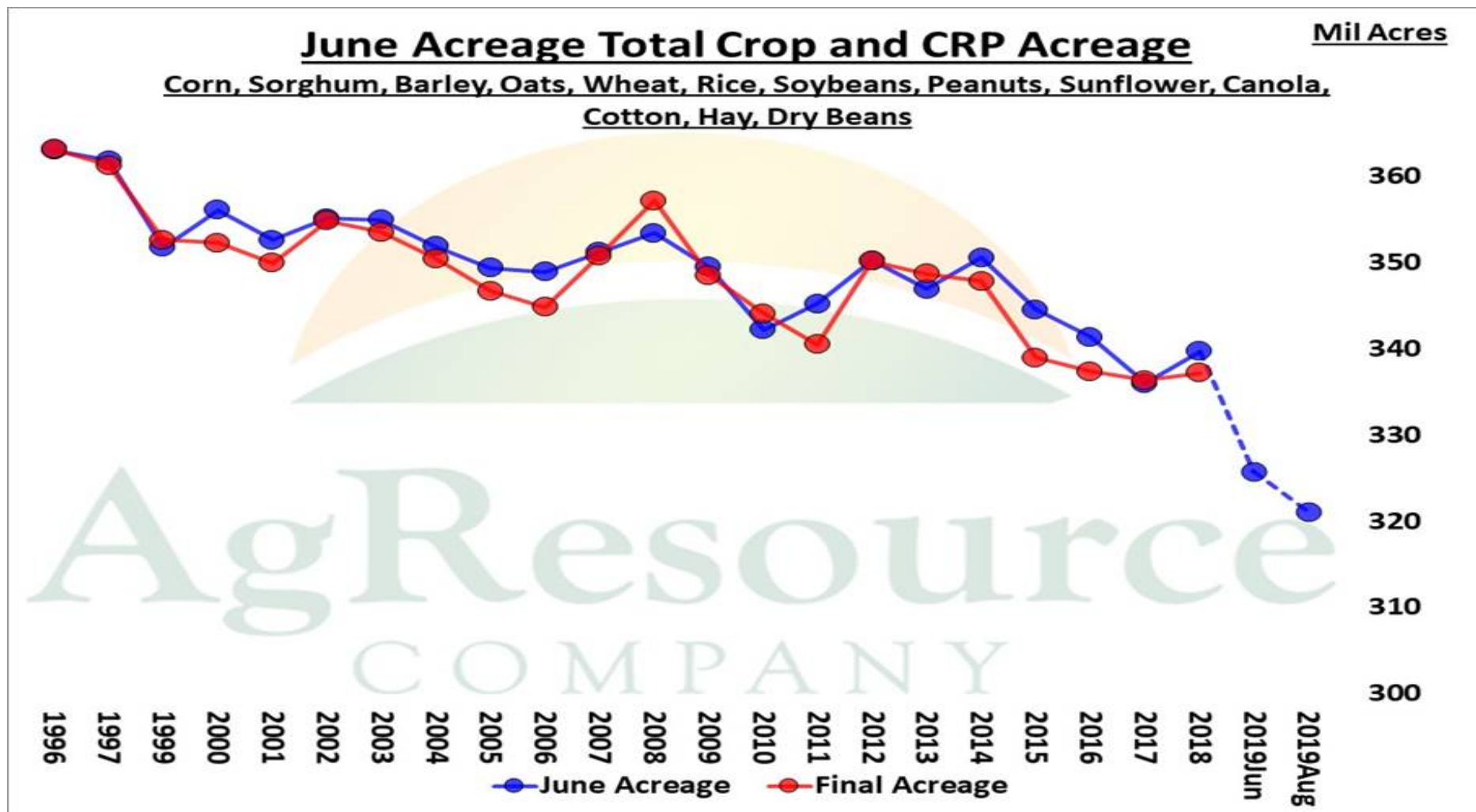
**Annual Global Temperature Anomalies
1950 - 2011**



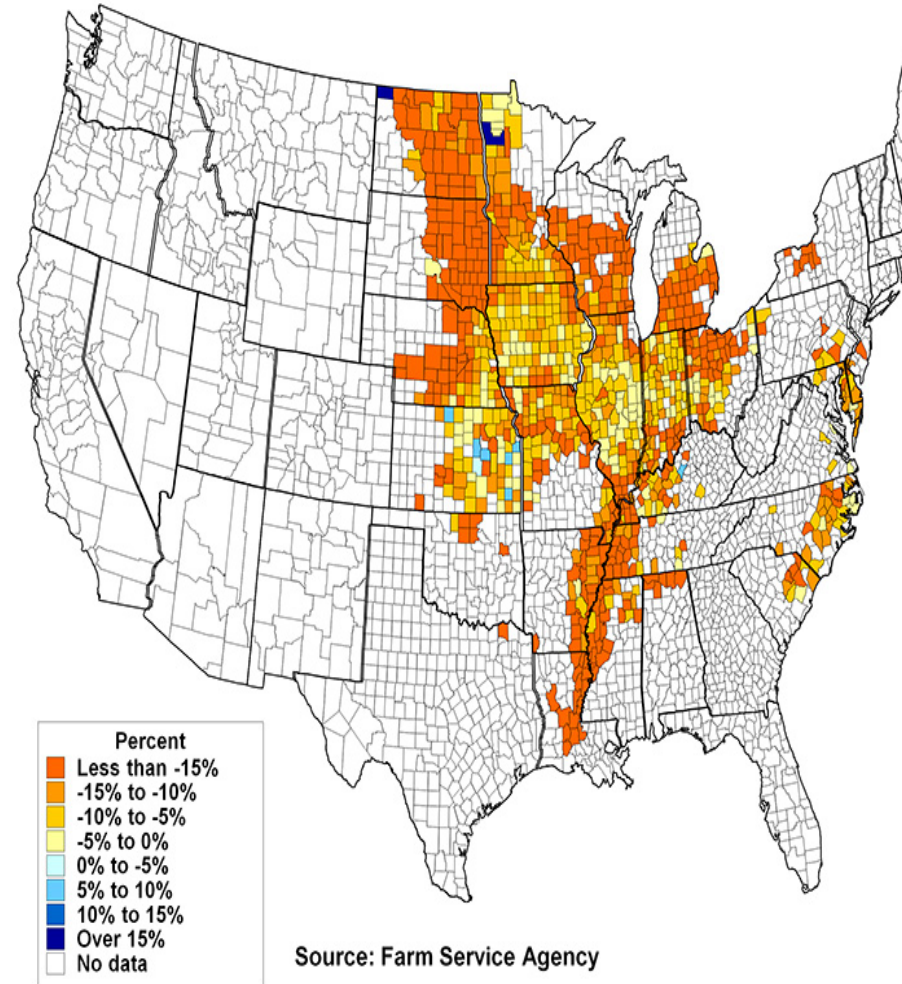
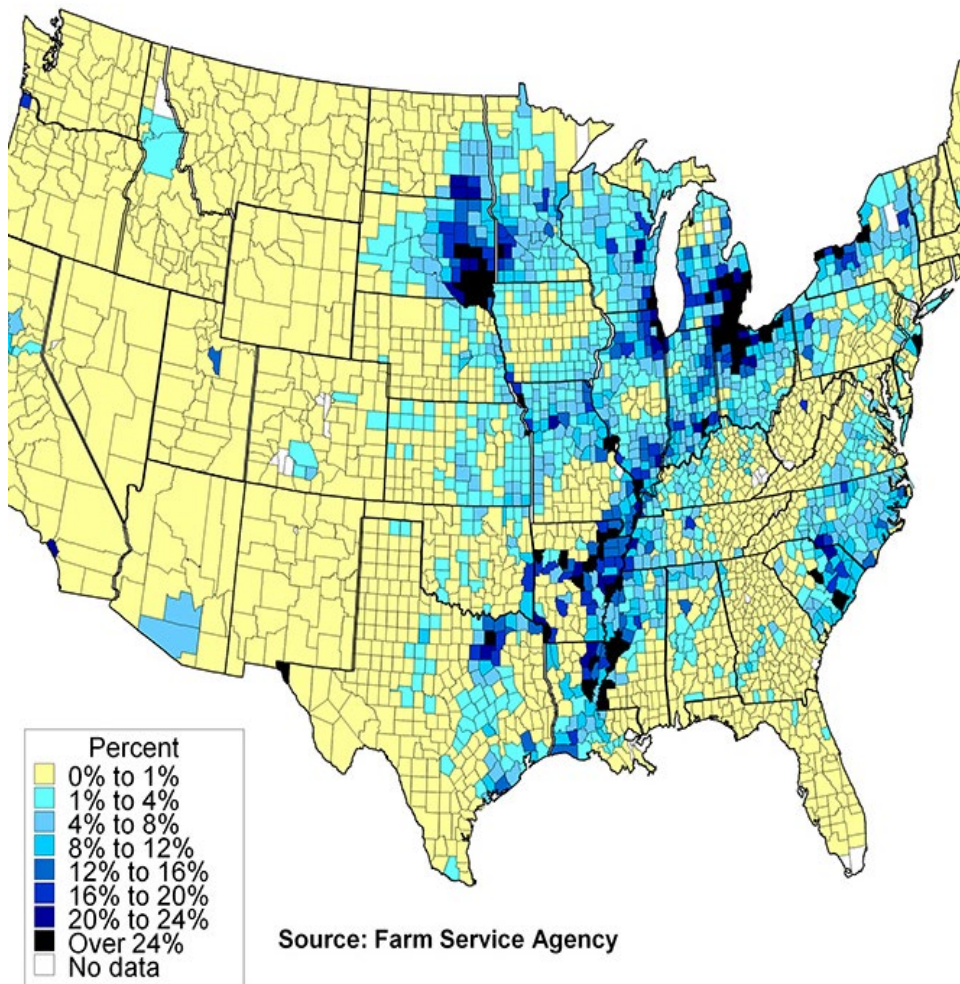
US Spring Weather- Delayed Seeding/Production Risks



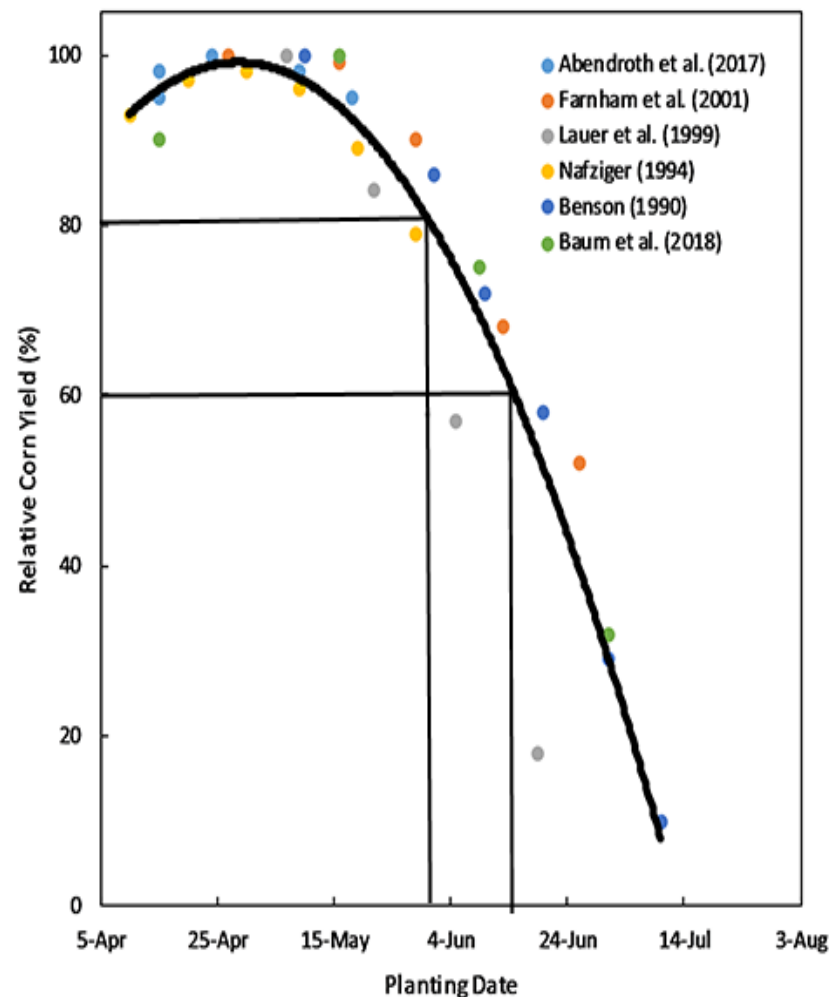
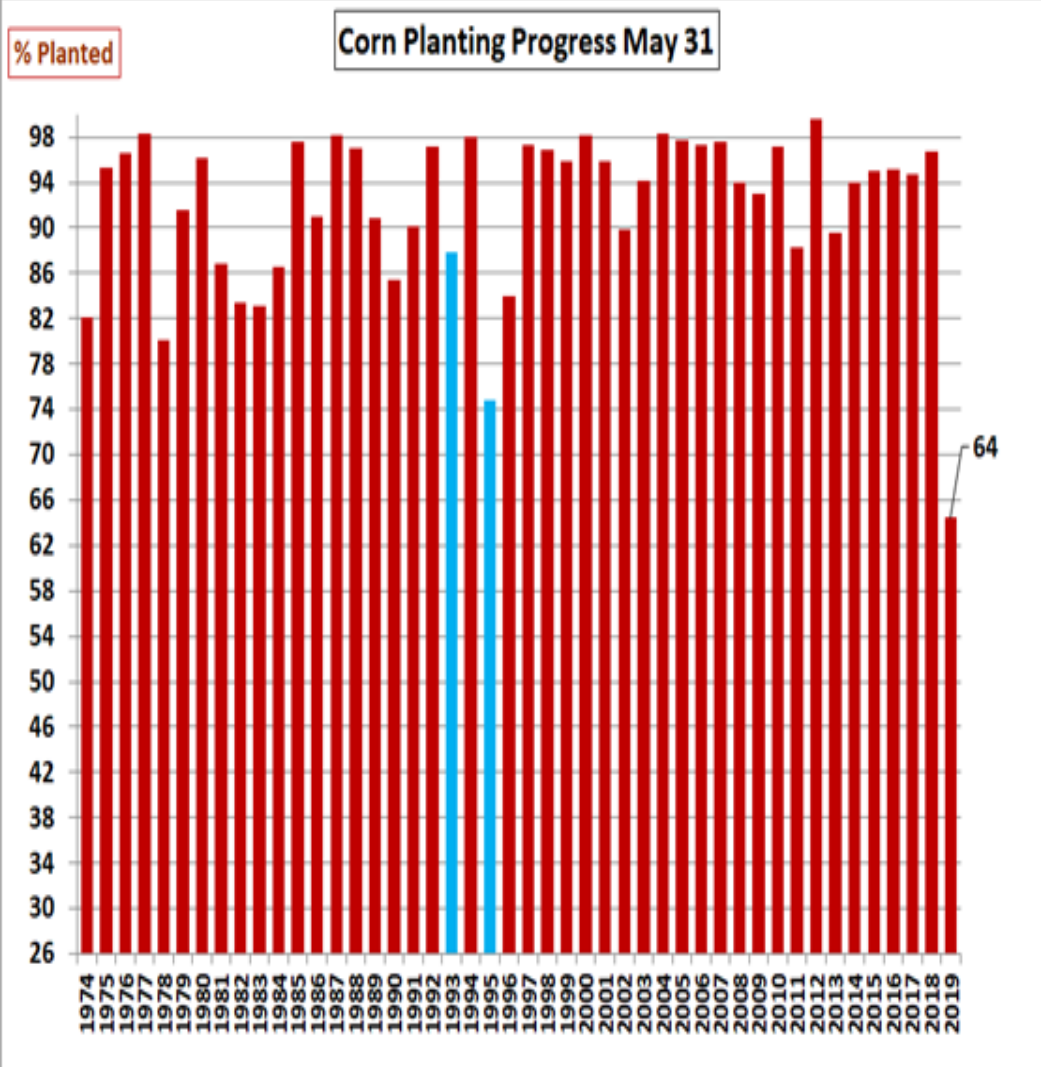
19 Mil Acres of US Prevent Plant Acres Due to the Cold/Wet Spring



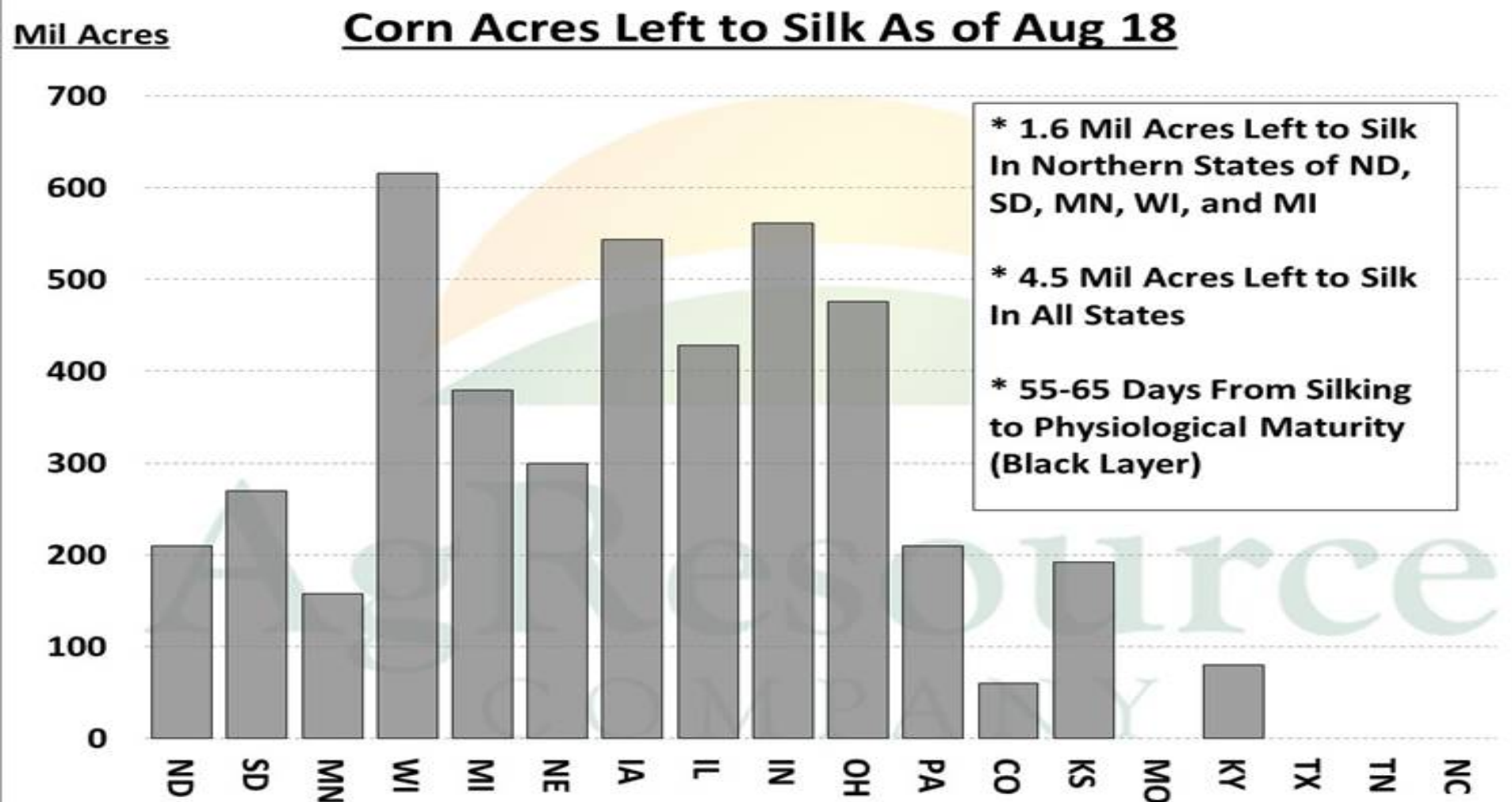
Corn (right)/ Soybean (Left) PP Acres – Soybeans were the Crop Impacted



Late Seeding Dates Cause Final Weather Hurdle for 2019 Crops



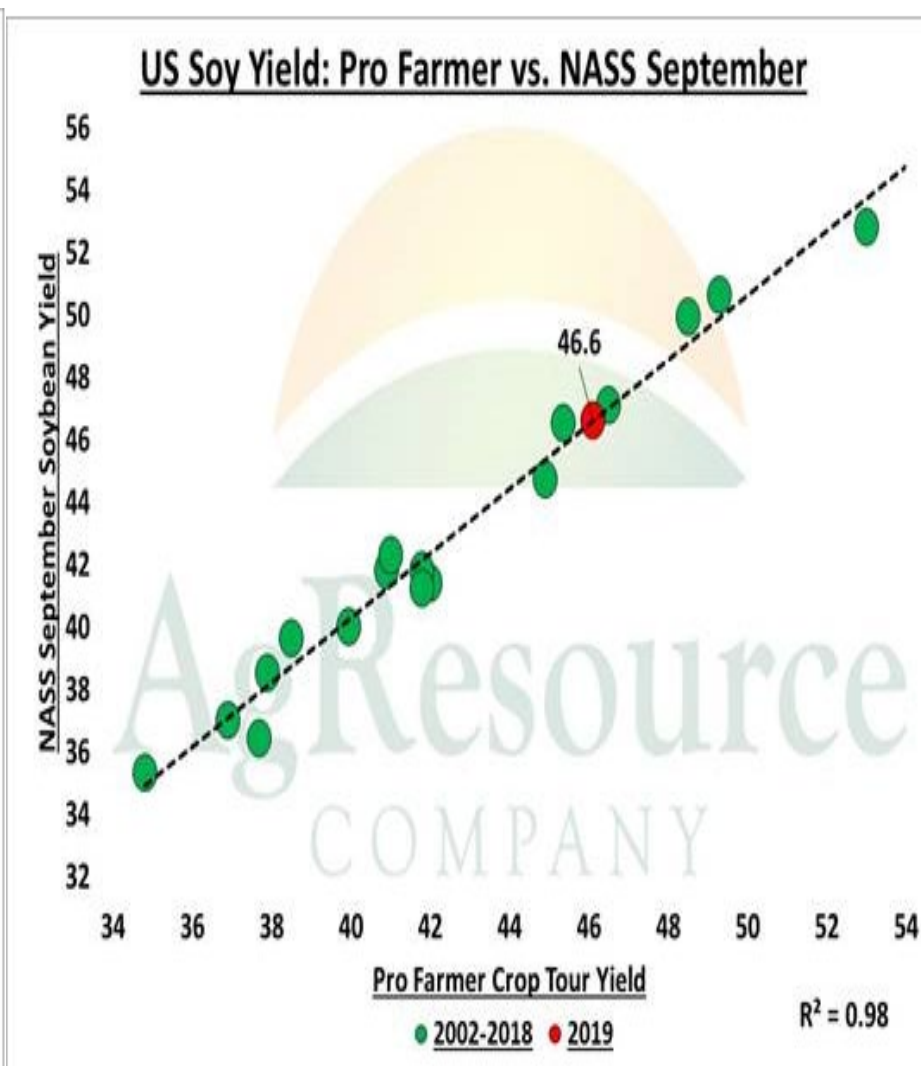
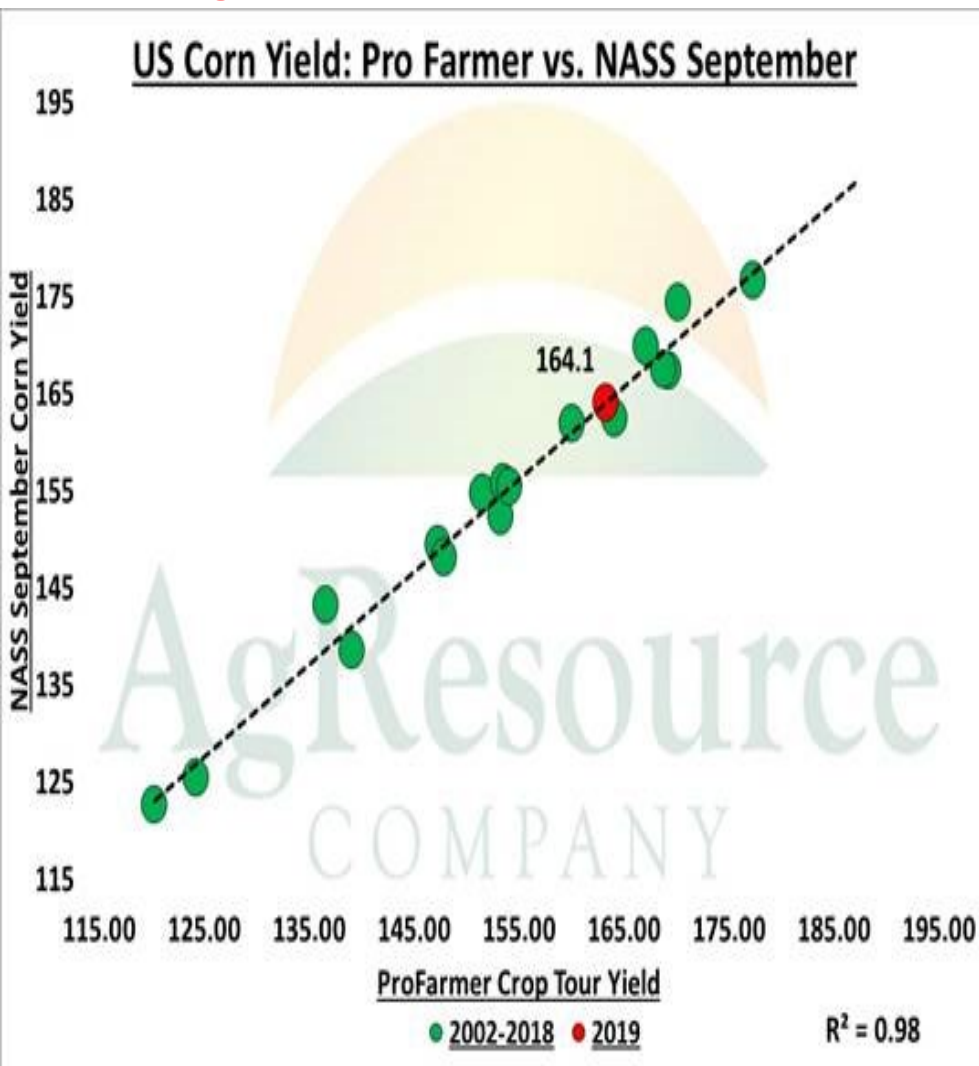
US Corn Crop Must Have At Least Normal Frost/Freeze Dates



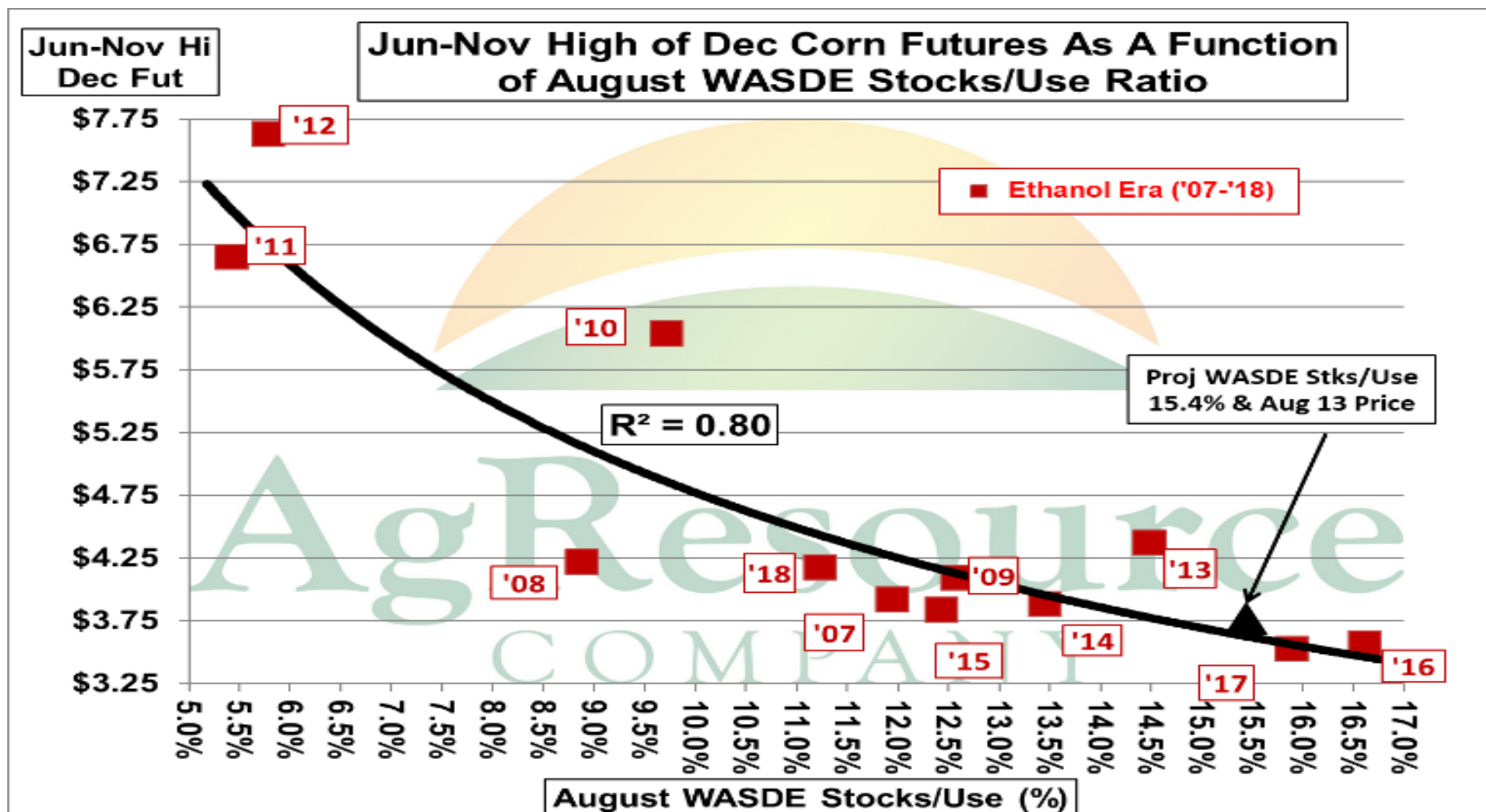
'19 US Corn Yield Needs to Fall Below 157 BPA to Stimulate \$4.50 CBOT

| CORN | 2017/18 USDA Final | 2018/19 USDA Jul | 2018/19 USDA Aug | 2018/19 ARC Aug | 2019/20 USDA Jul | 2019/20 USDA Aug | 2019/20 ARC Aug |
|-------------------------------|--------------------------|------------------------|------------------------|-----------------------|------------------------|------------------------|-----------------------|
| Mln Acres or Bushels | | | | | | | |
| Area Planted | 90.2 | 89.1 | 89.1 | 89.1 | 91.7 | 90.0 | 90.0 |
| Abandonment | 8.3% | 8.3% | 8.3% | 8.3% | 8.8% | 8.9% | 8.9% |
| Area Harvested | 82.7 | 81.7 | 81.7 | 81.7 | 82.4 | 82.0 | 82.0 |
| Yield | 176.6 | 176.4 | 176.4 | 176.4 | 166.0 | 169.5 | 166.0 |
| Production | 14,609 | 14,420 | 14,420 | 14,420 | 13,875 | 13,901 | 13,610 |
| Beginning Stocks | 2,293 | 2,140 | 2,140 | 2,140 | 2,340 | 2,340 | 2,435 |
| Imports | 36 | 35 | 30 | 30 | 50 | 50 | 75 |
| Supply, Total | 16,939 | 16,595 | 16,595 | 16,600 | 16,265 | 16,311 | 16,120 |
| Feed and Residual | 5,304 | 5,275 | 5,275 | 5,250 | 5,175 | 5,175 | 5,150 |
| Food, Seed, Industrial | 7,057 | 6,880 | 6,855 | 6,855 | 6,930 | 6,905 | 6,830 |
| Ethanol & By-Products 1/ | 5,605 | 5,450 | 5,425 | 5,425 | 5,500 | 5,475 | 5,400 |
| Food, Other Industrial 2/ | 1,422 | 1,400 | 1,400 | 1,400 | 1,400 | 1,400 | 1,400 |
| Seed | 29 | 30 | 30 | 30 | 30 | 30 | 30 |
| Domestic, Total | 12,361 | 12,155 | 12,130 | 12,105 | 12,105 | 12,080 | 11,980 |
| Exports | 2,438 | 2,100 | 2,100 | 2,050 | 2,150 | 2,050 | 1,900 |
| Use, Total | 14,798 | 14,255 | 14,230 | 14,155 | 14,255 | 14,130 | 13,880 |
| Ending Stocks | 2,140 | 2,340 | 2,360 | 2,435 | 2,010 | 2,181 | 2,240 |
| Ending Stocks/Use | 14.5% | 16.4% | 16.4% | 17.2% | 14.1% | 15.4% | 16.1% |
| Crop Insurance Price (\$/Bu) | 3.96 | 3.96 | 3.96 | 3.96 | 4.00 | 4.00 | 4.00 |
| Avg. Farm Price (\$/Bu) 3/ | 3.36 | 3.60 | 3.60 | 3.55 | 3.80 | 3.60 | <u>3.25</u> |
| Fut-Based Forecast (\$/Bu) 4/ | --- | 3.60 | 3.60 | 3.60 | 3.80 | 3.80 | 3.80 |
| Price Ratio: Corn/Soy (%) | 36% | 41% | 41% | 42% | 44% | 44% | 39% |

Use Pro Farmer Tour Results for September NASS Estimate

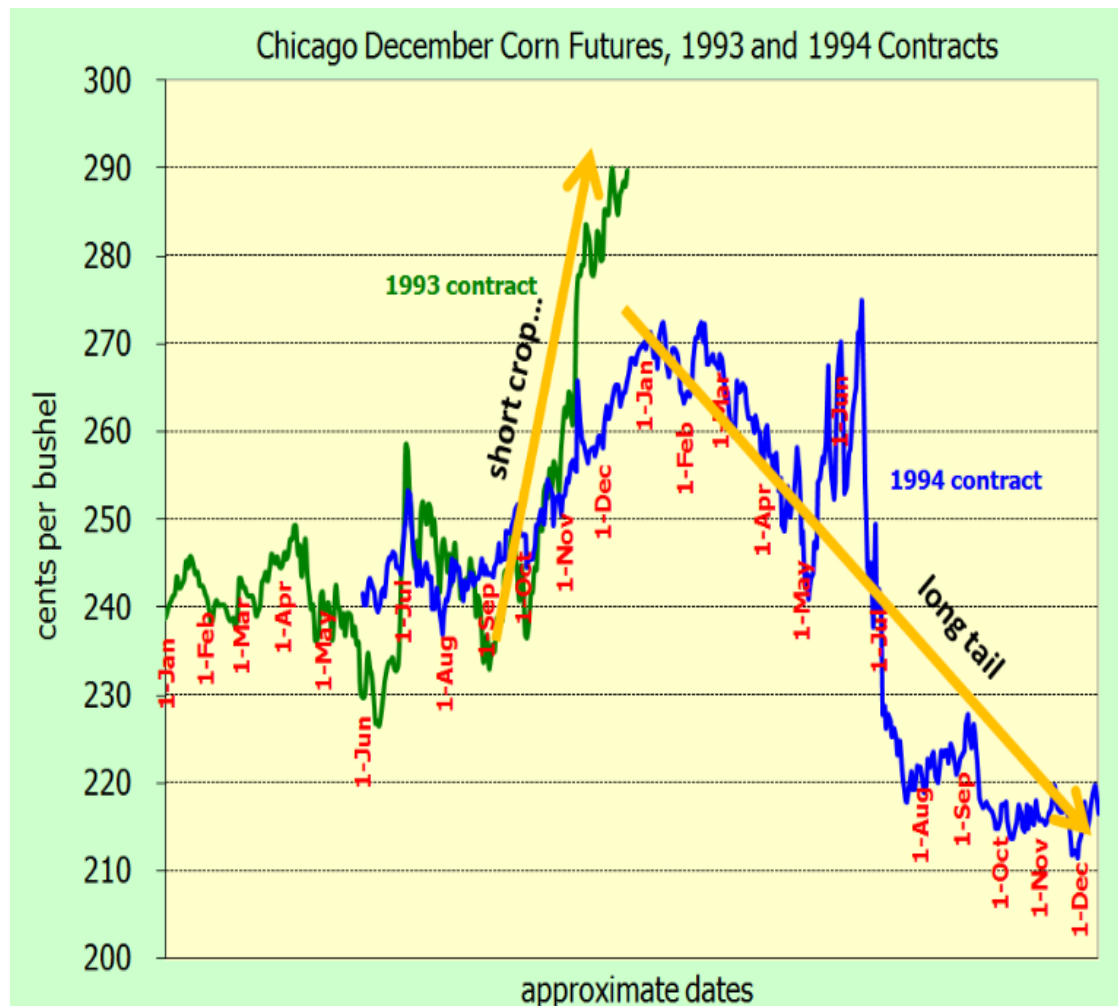


Corn Market Decline Backed by Stock/Use Price Modeling \$3.55-4.20

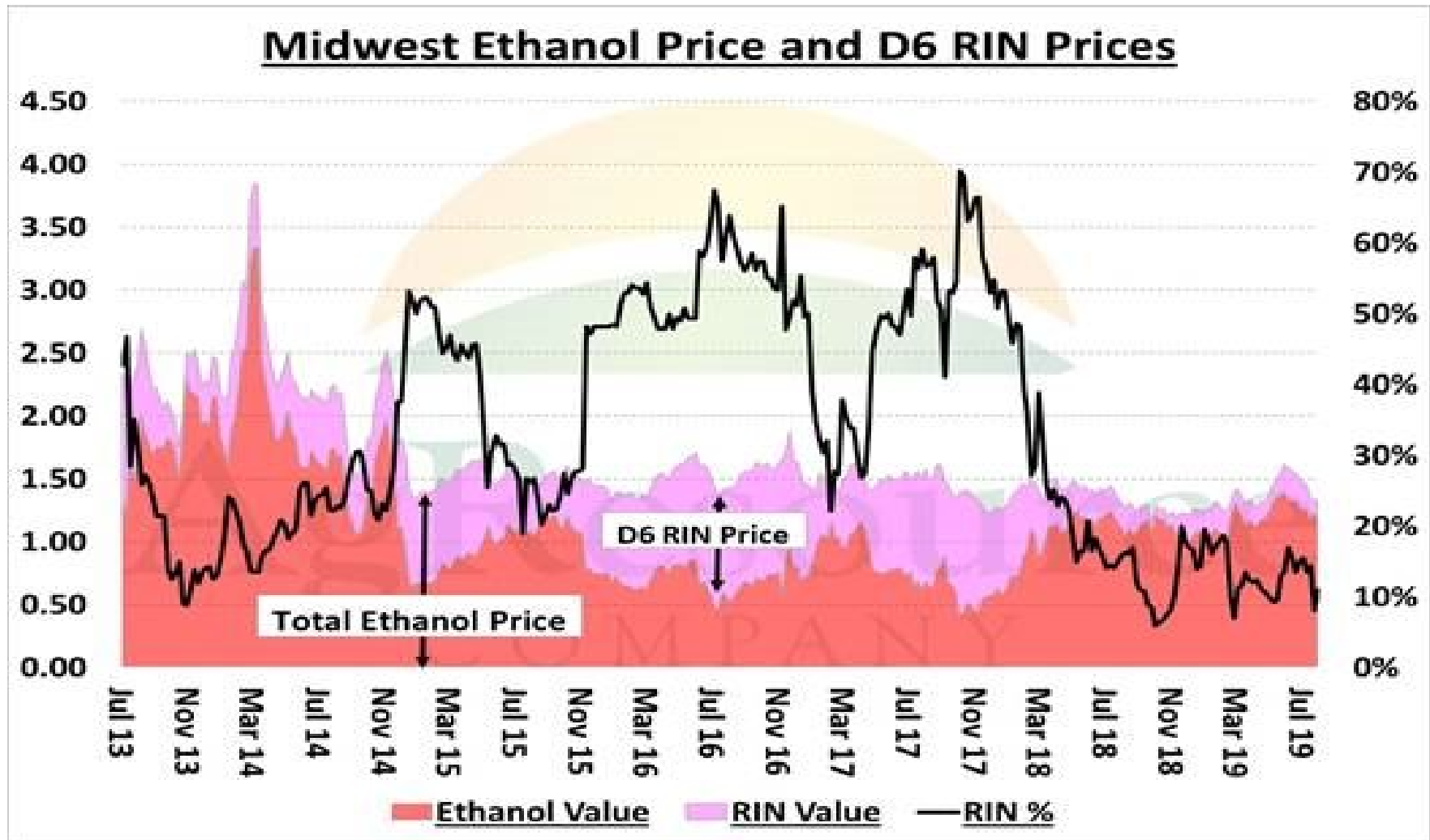


Short Crops Have A Long Price Tail!

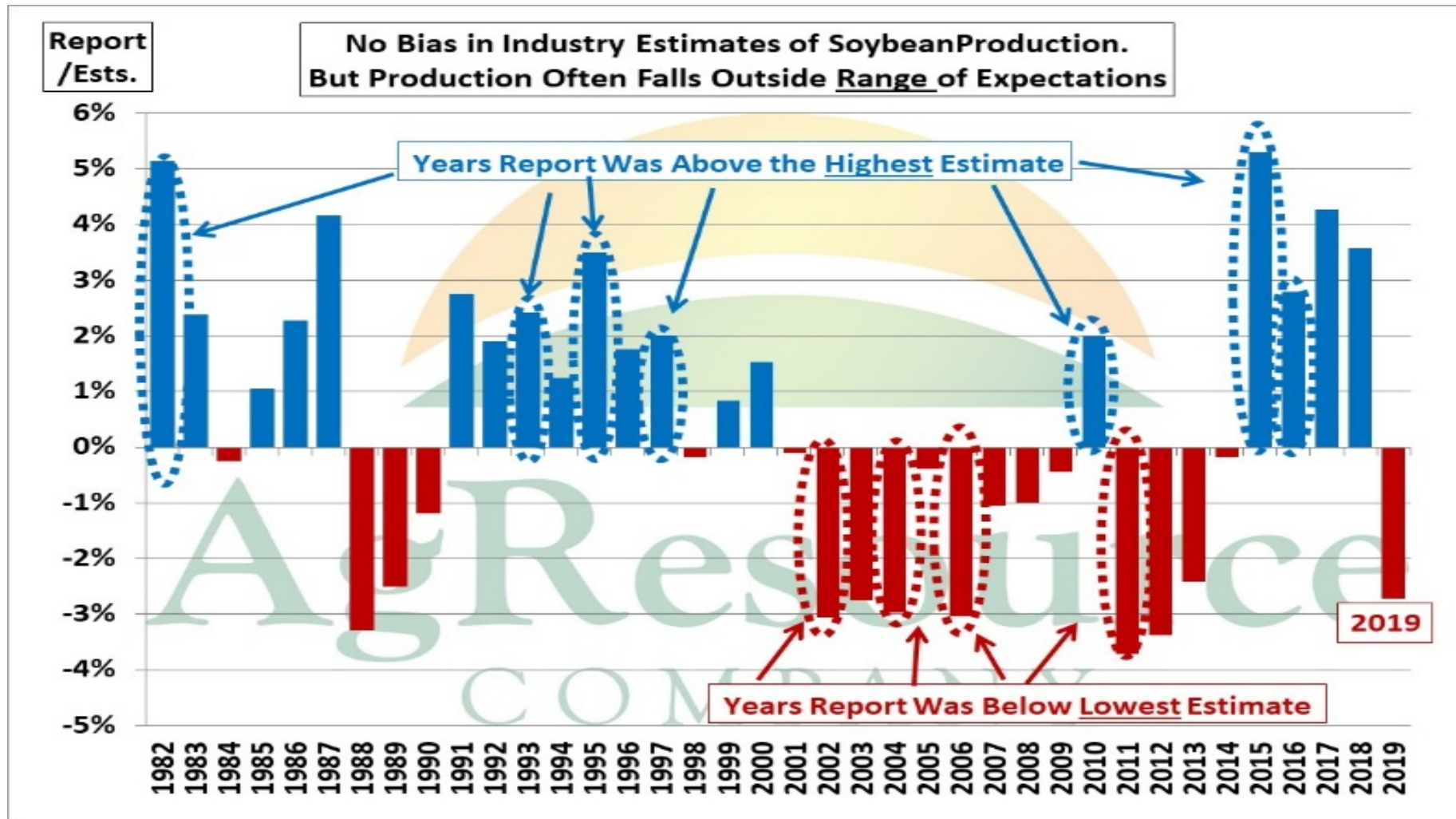
- 2020 US corn Seeding Likely to Rise to 96-100 Mil acres.
- South America Corn/ Soy Seeding to Expand.
- No China soybean demand increase due to ASF!
- Dec 2020 corn to peak at \$4.20-4.30 with harvest lows next year at \$3.00-3.20.
- So only take feed use coverage into yearend.



Waivers Have Killed the US Ethanol Outlook – D6 Rin Price!

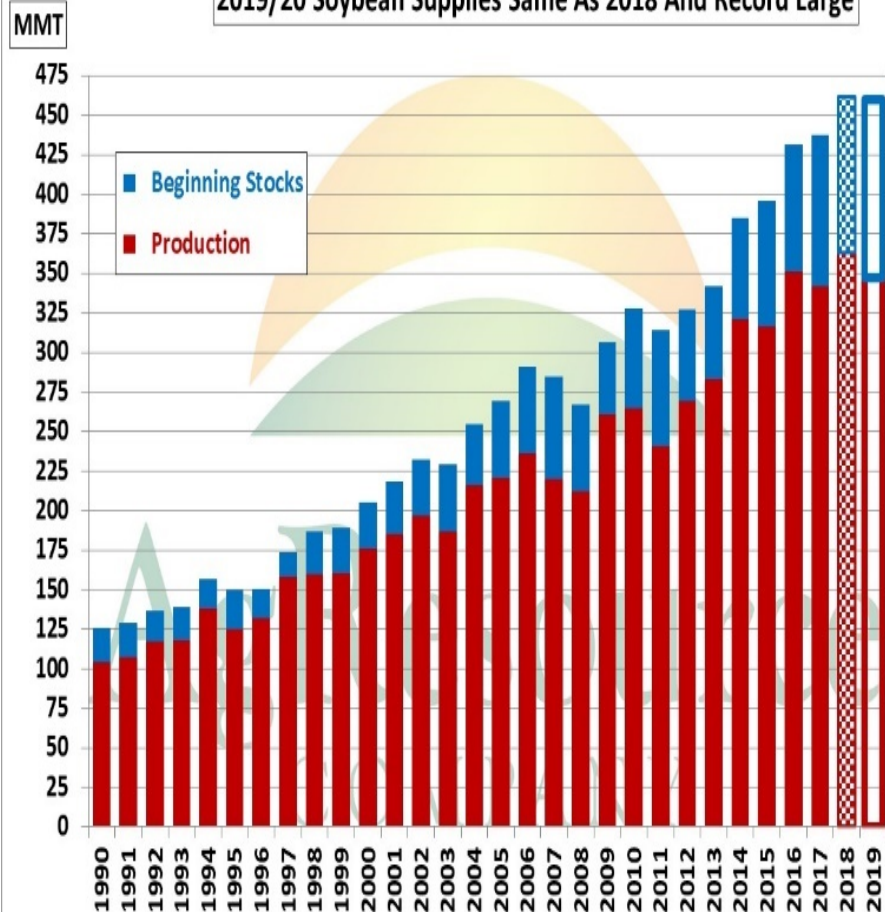


2019 US Soybean Crop Has Declined 470 Mil Bu Since May WASDE

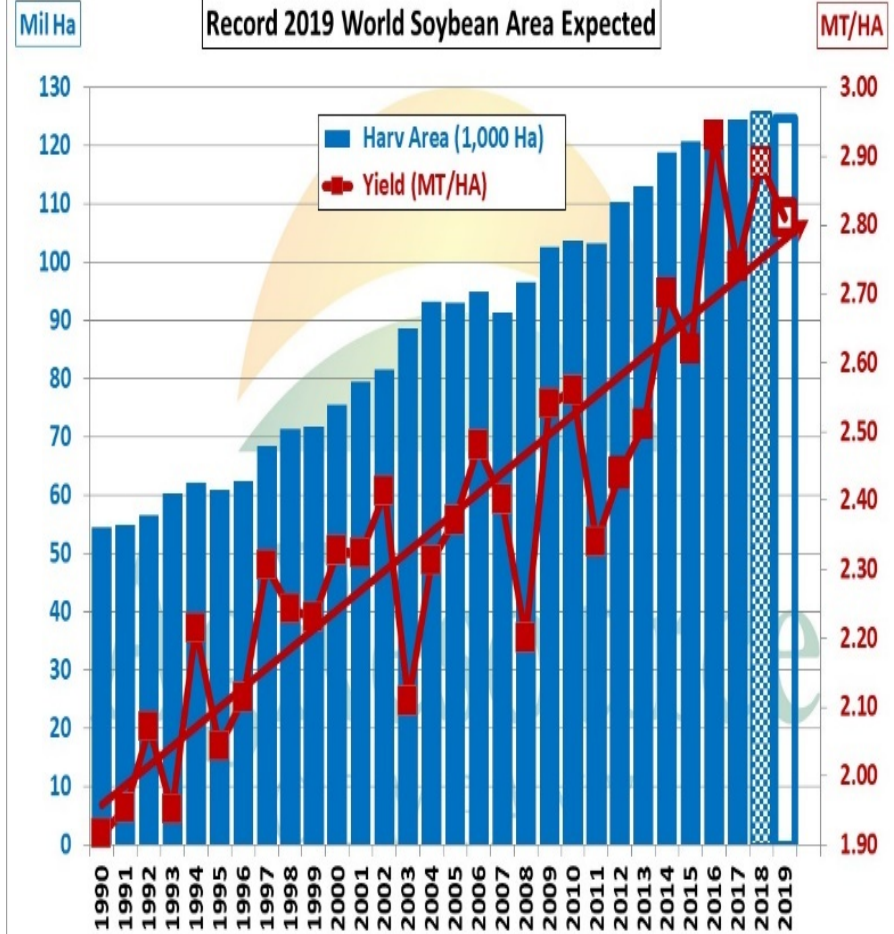


Even With US Shortfall, World Has Adequate Soybean Supplies

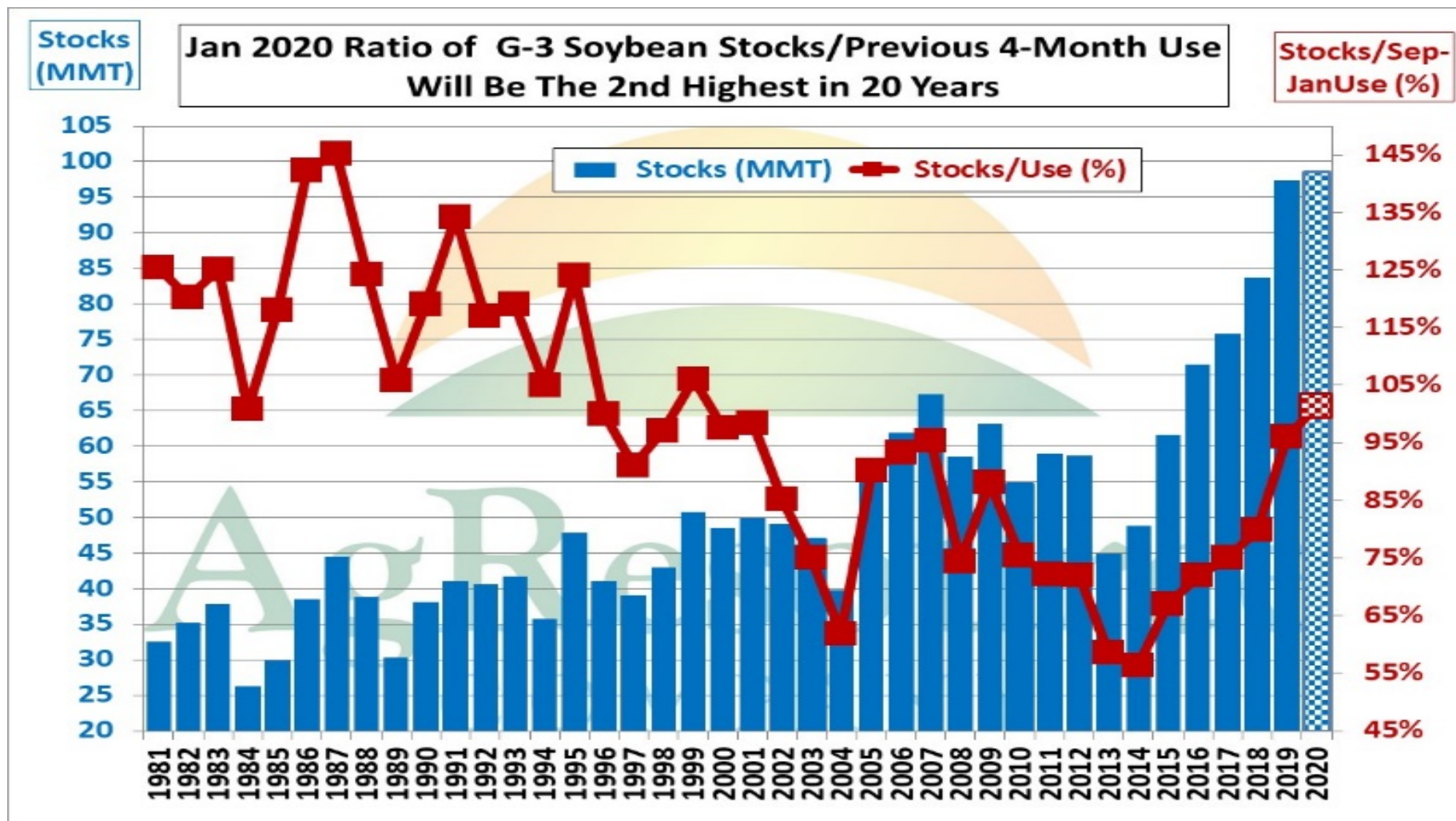
2019/20 Soybean Supplies Same As 2018 And Record Large



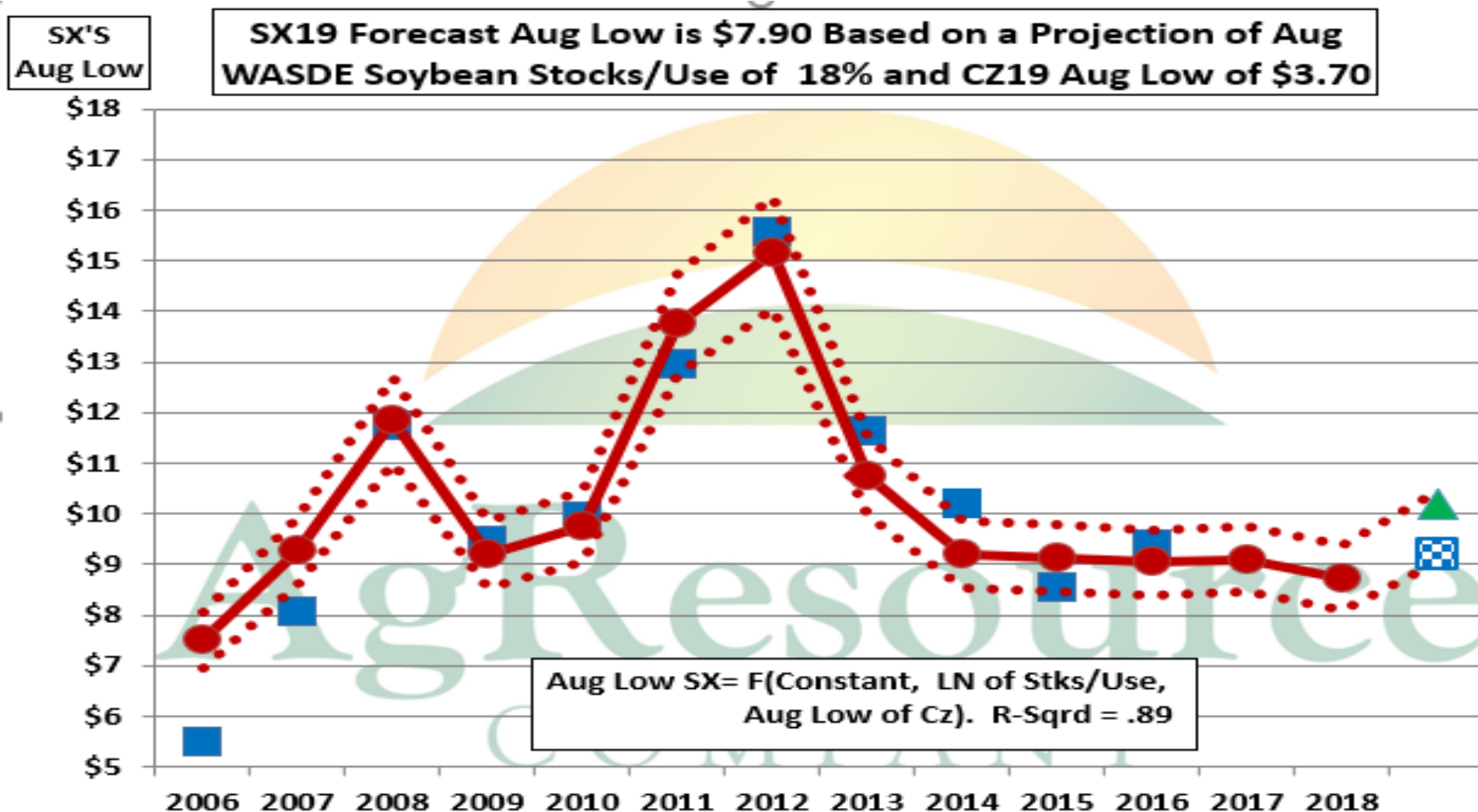
Record 2019 World Soybean Area Expected



G3 Stocks Rise to a Record in January 2020 – Caps CBOT \$9.25



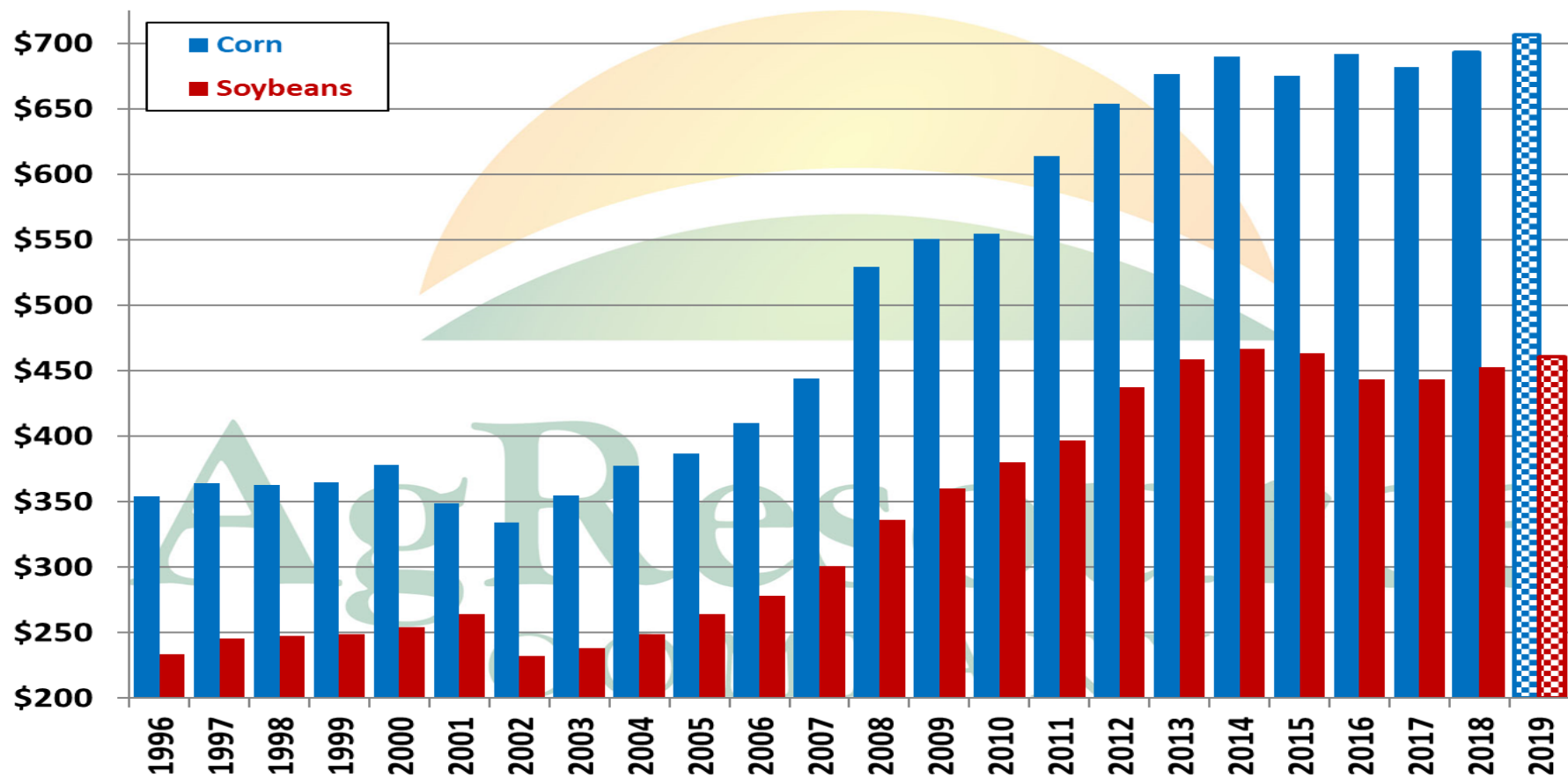
Soybean Modeling Forecast Range of \$7.55-9.20 into 2020



US Corn/Soybean Costs Estimated to be 2-4% Higher in 2019

\$/Ac

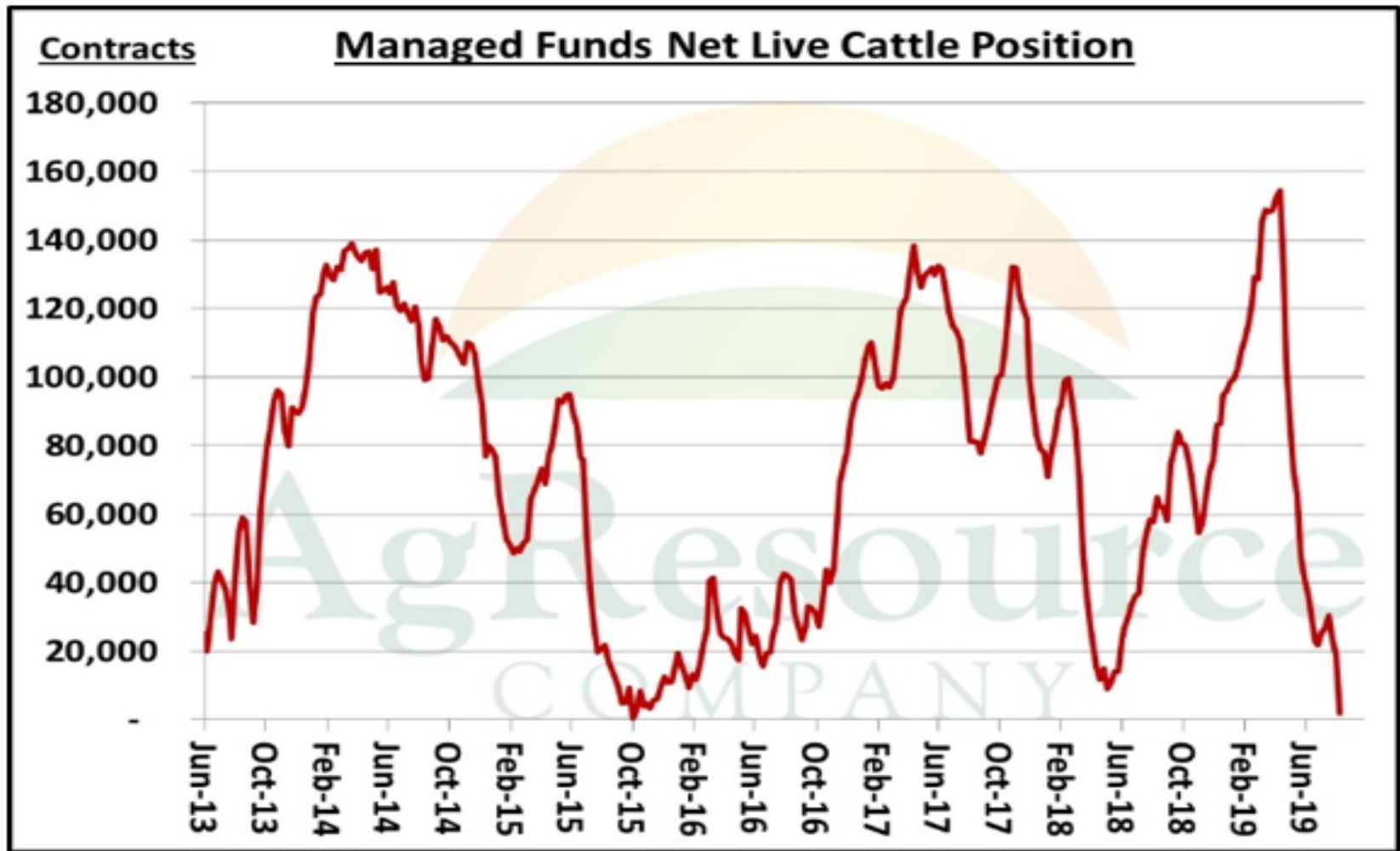
Corn and Soybean Cost of Production



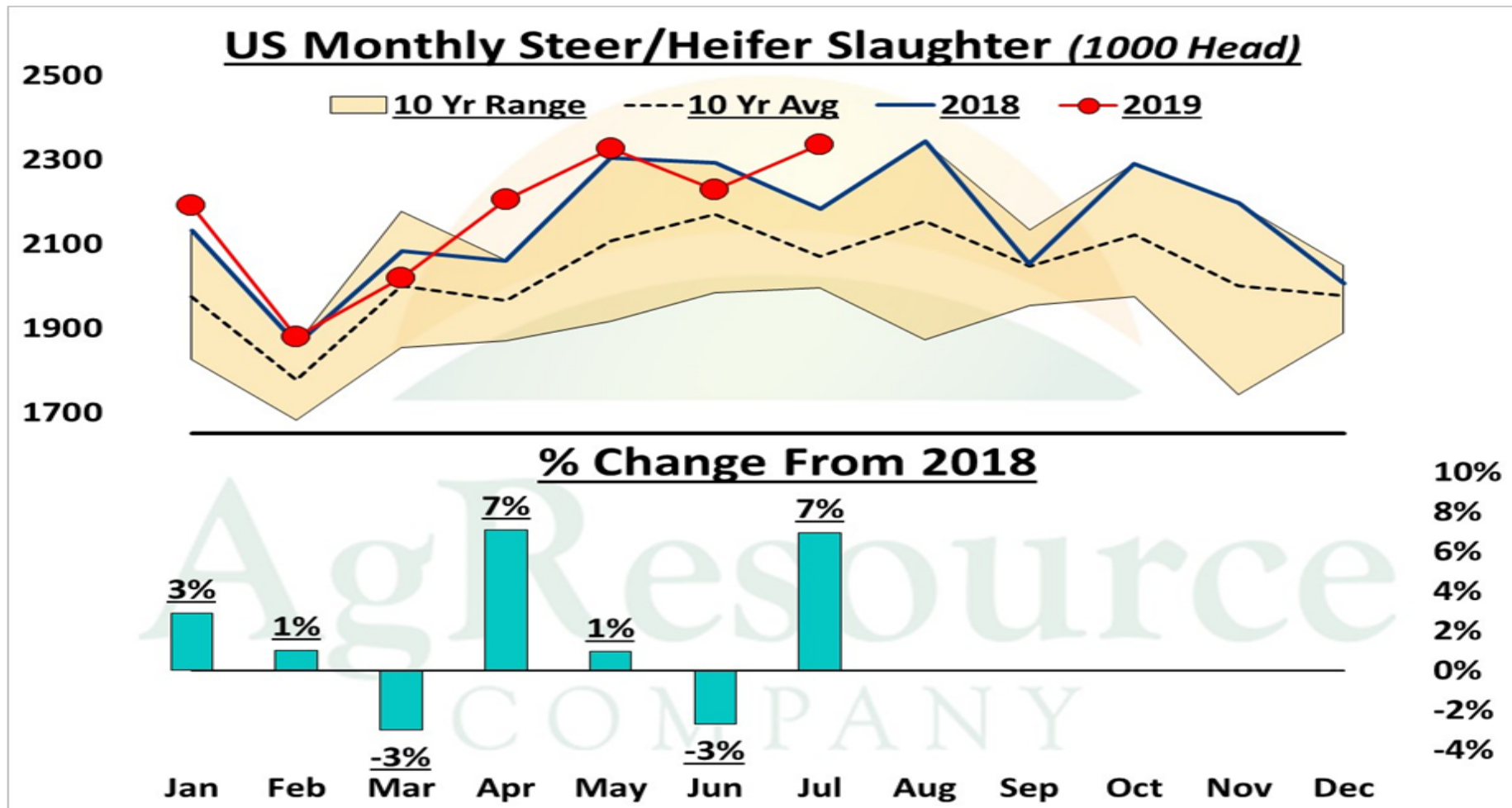


- **Cattle Outlook into 2020;**
- **Tightening Fed Supplies into March; Cash Cattle to form Seasonal lows in next few weeks (\$100-102) with a top due in Q1 at \$122-128. US cattle Outlook Turning Bullish**

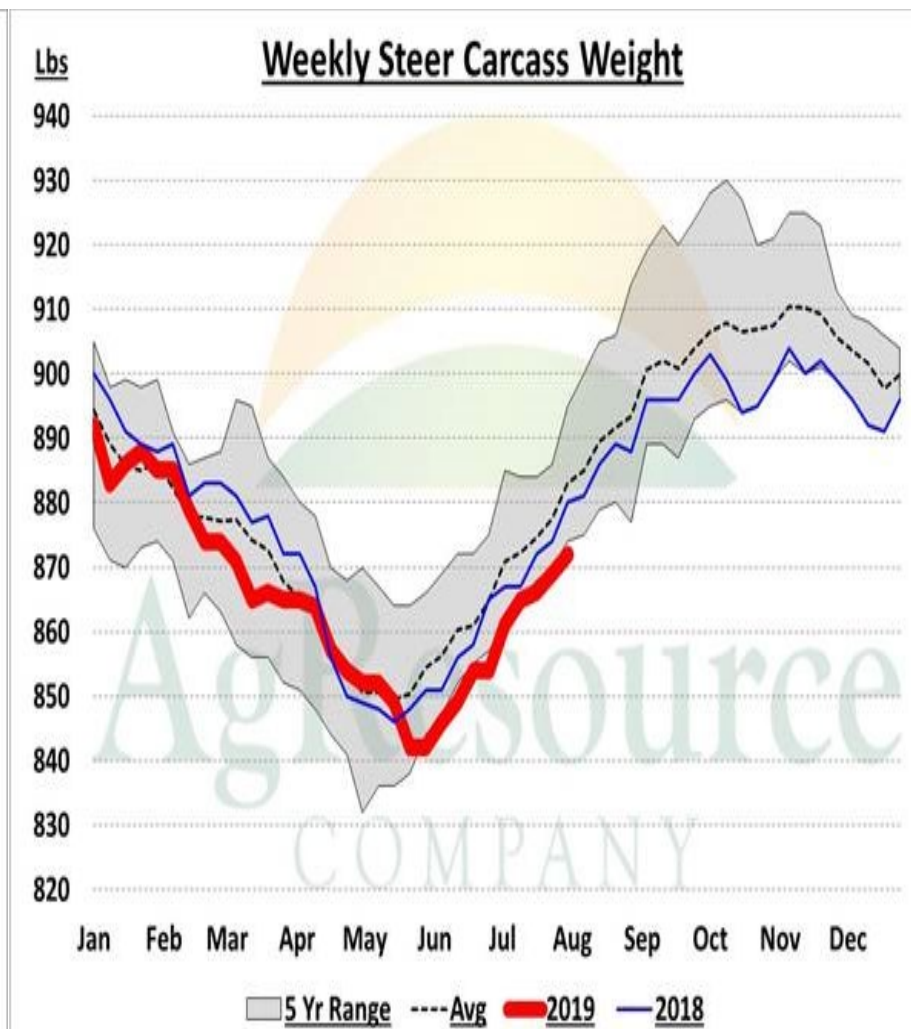
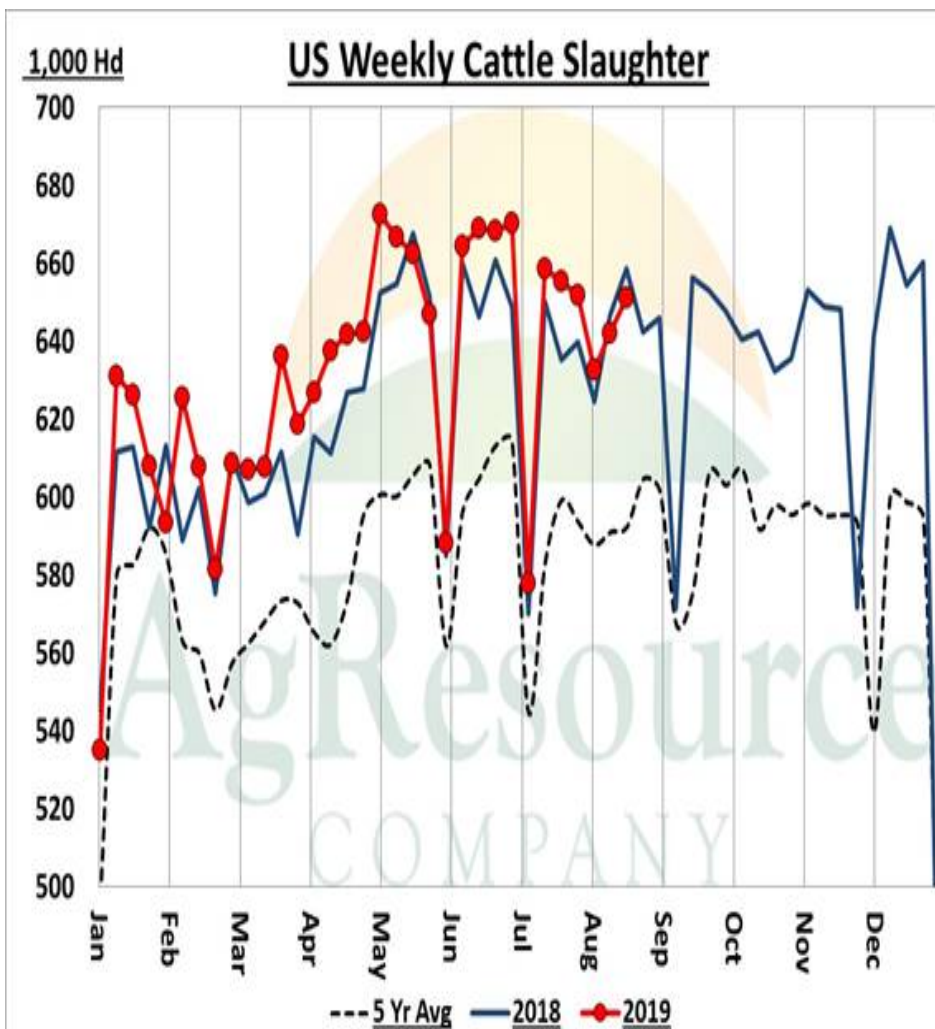
Cattle Futures (like many US ag markets) Controlled by Funds



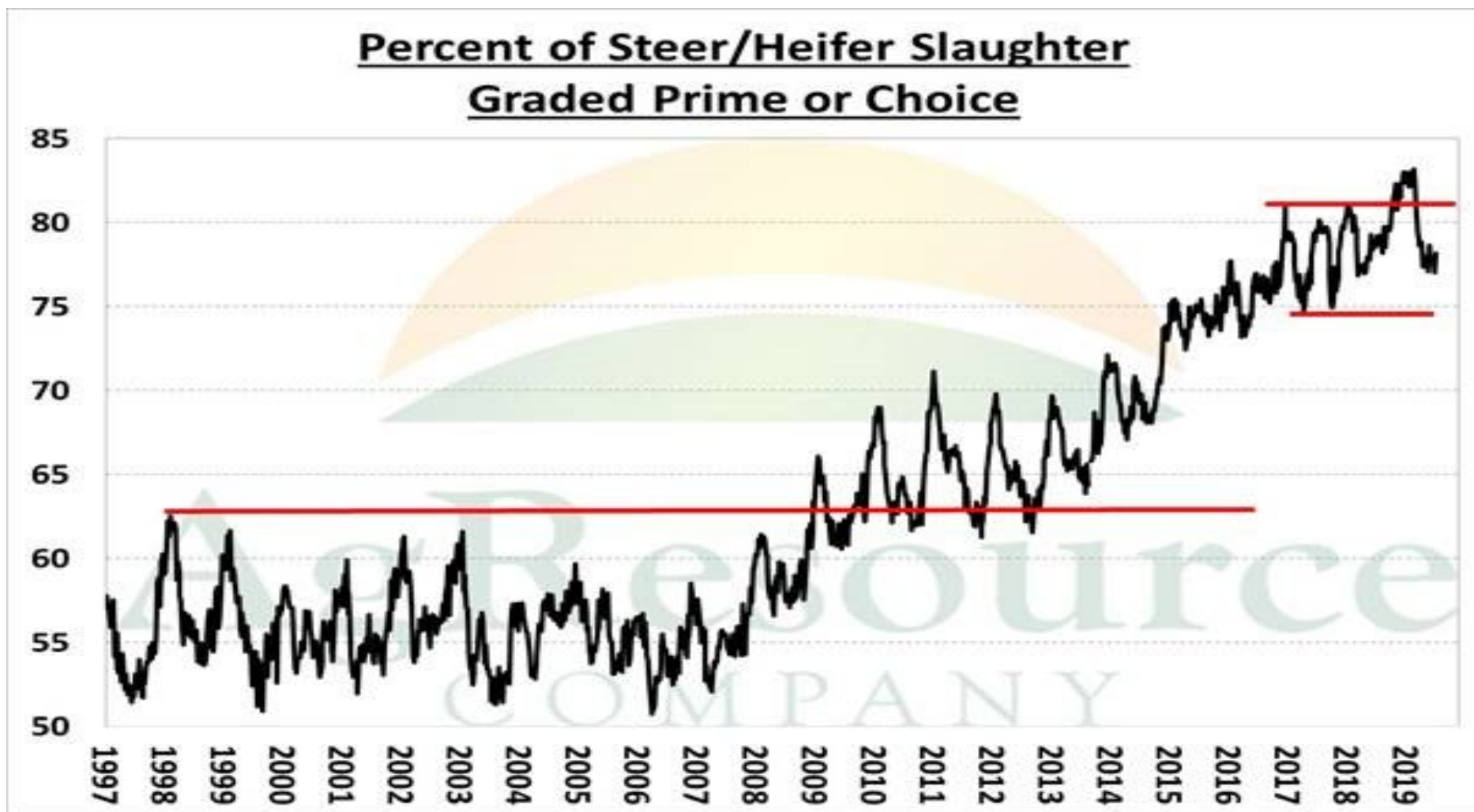
Worked Through Large July Supplies at Prices \$3-4/cwt Better Than Forecast



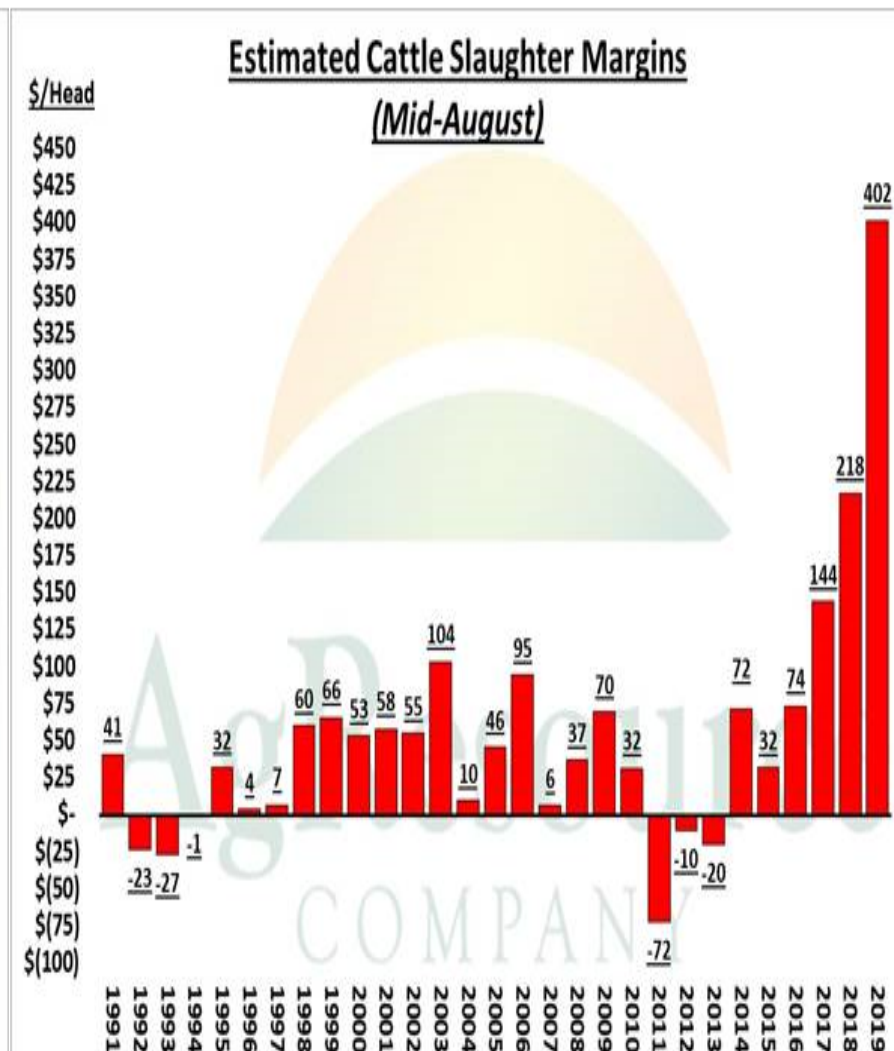
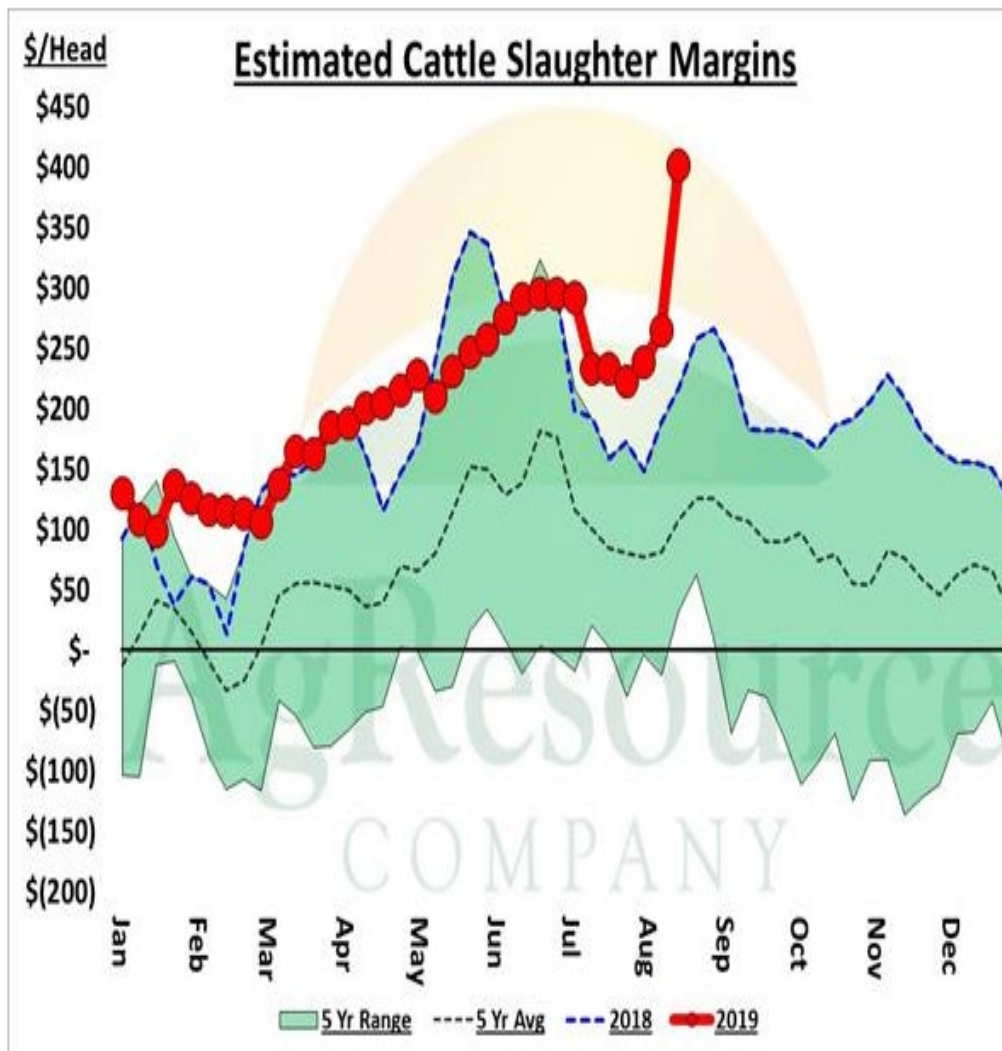
Weekly Kills Holding Above Last Year Even without Tyson - Weights Down



Genetics and Feeding Practices Leading to Sizeable Grade Gains

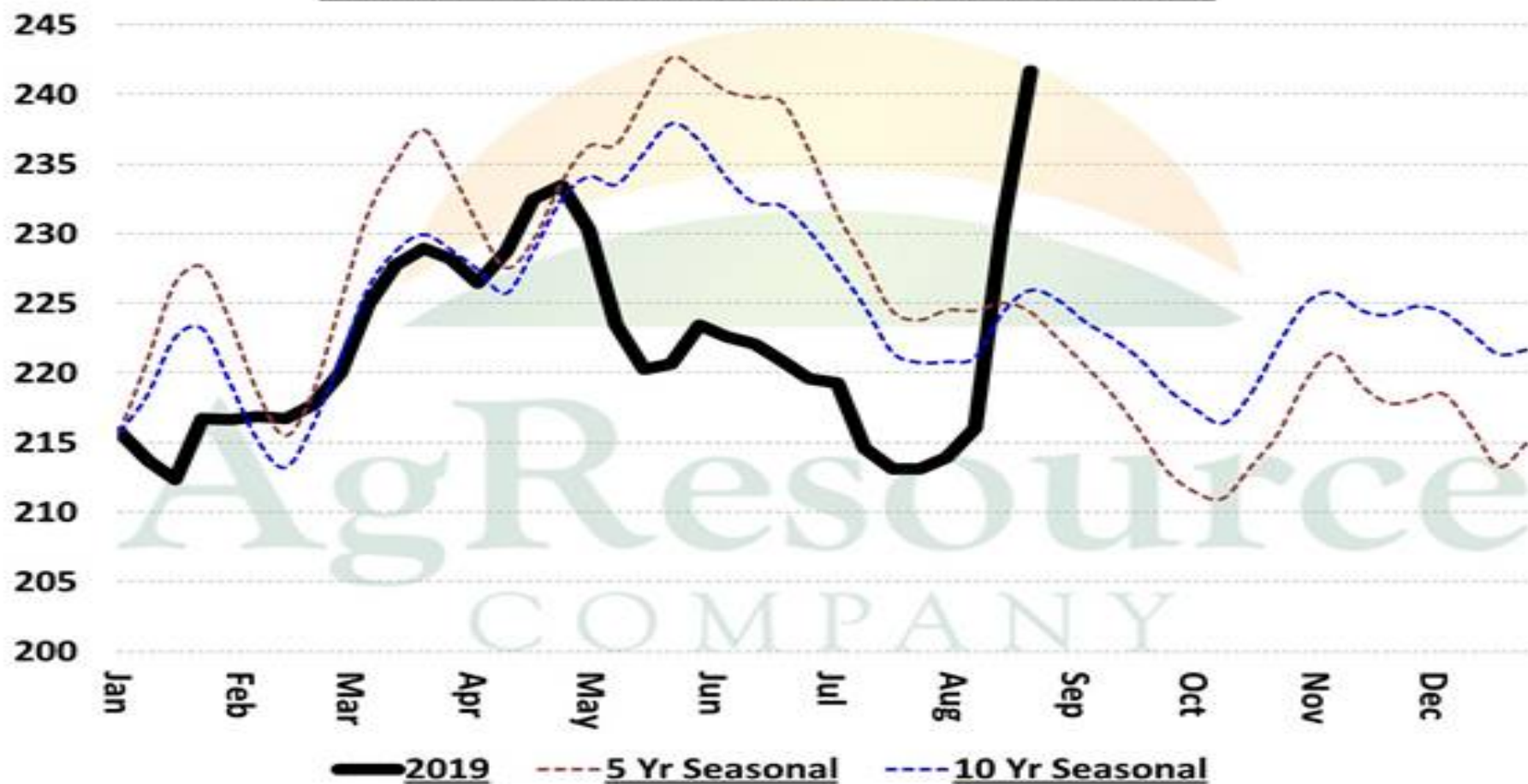


Packer Kill Margins at \$452/head as of Aug 27th- Record by Wide Margin!



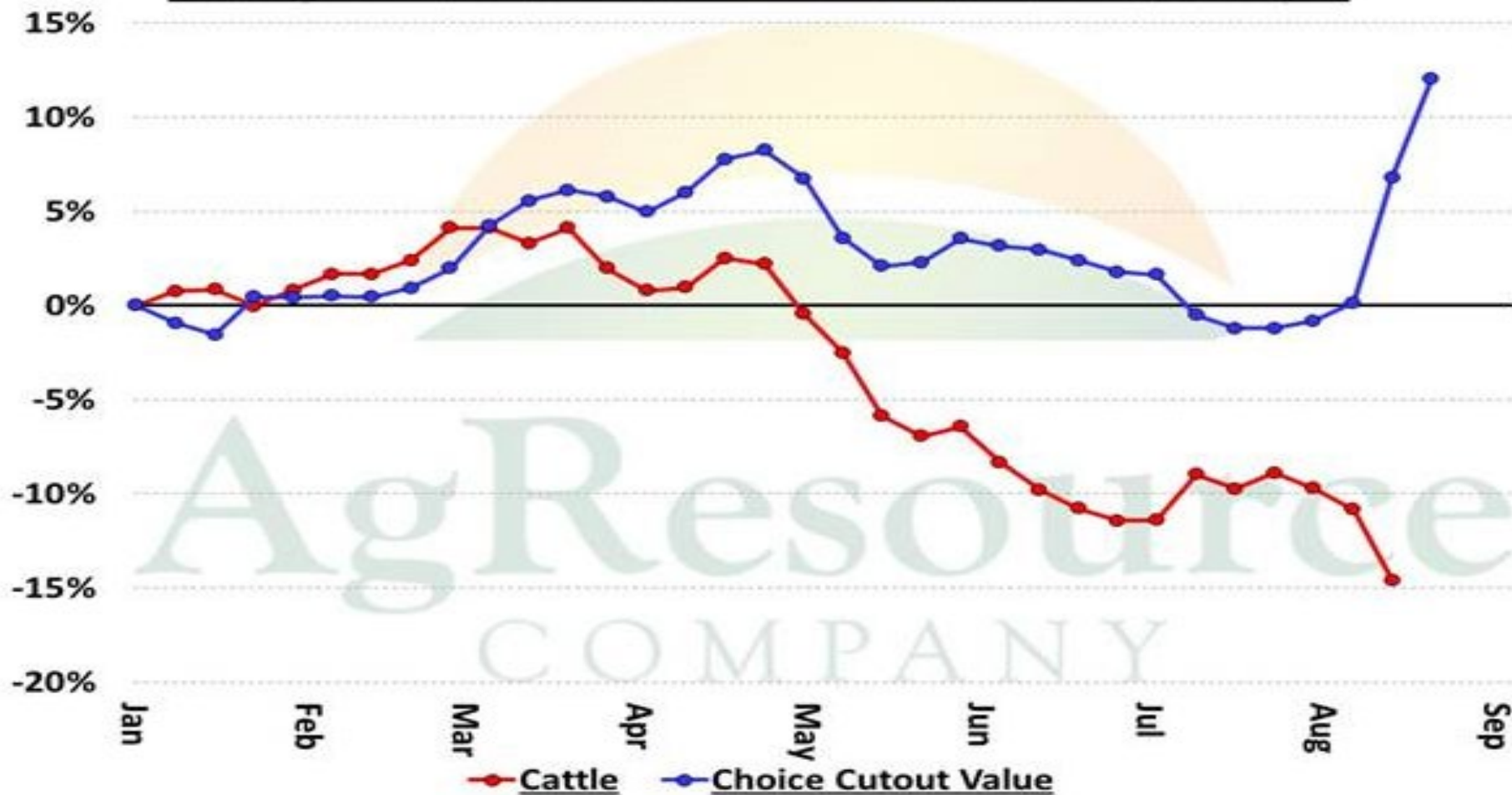
Choice Boxes Have Led The Rally on Strong Domestic Demand

Choice Cutout Value Seasonal Price

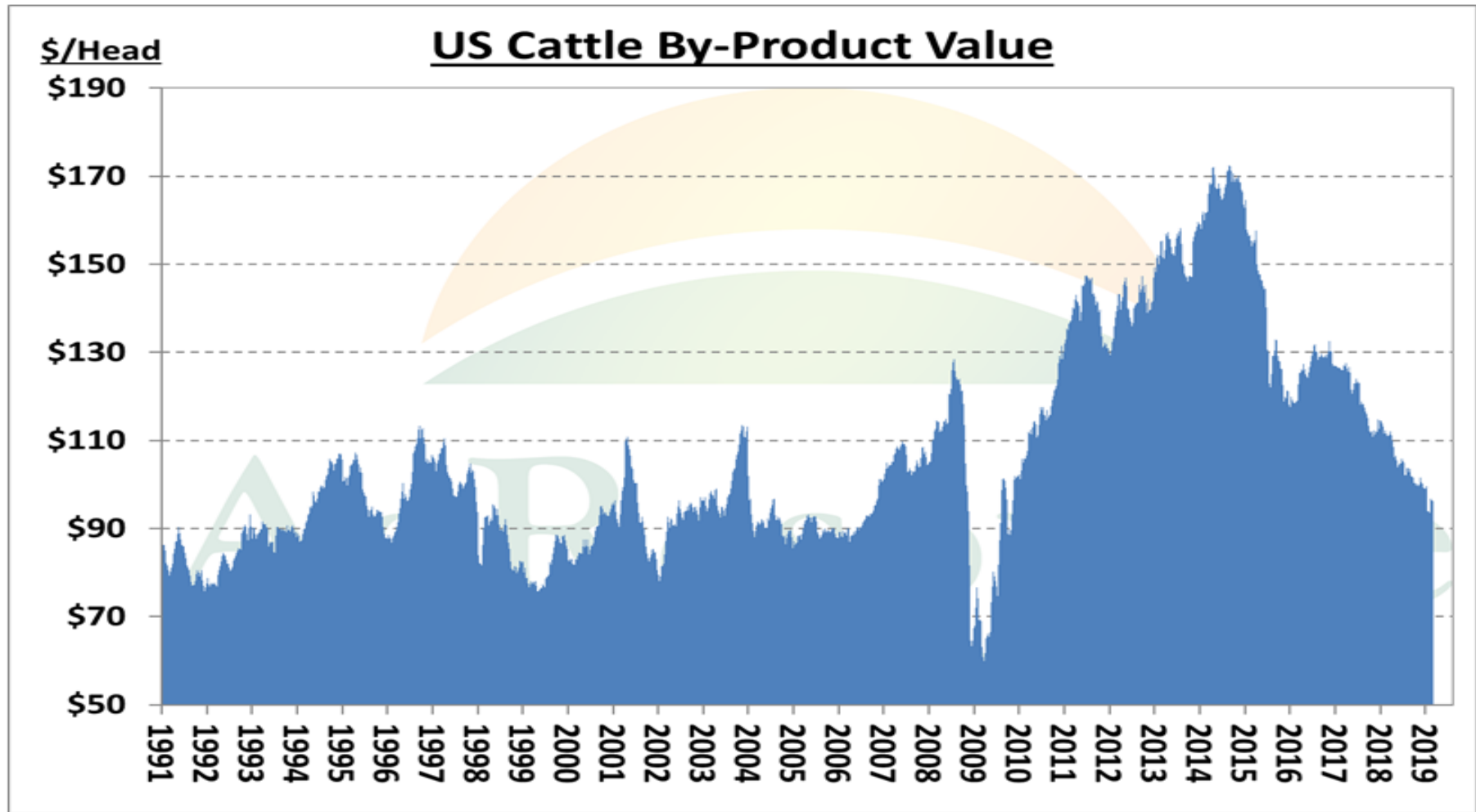


Since July, its all About Beef Prices; Packer Kill Margins off the Chart!

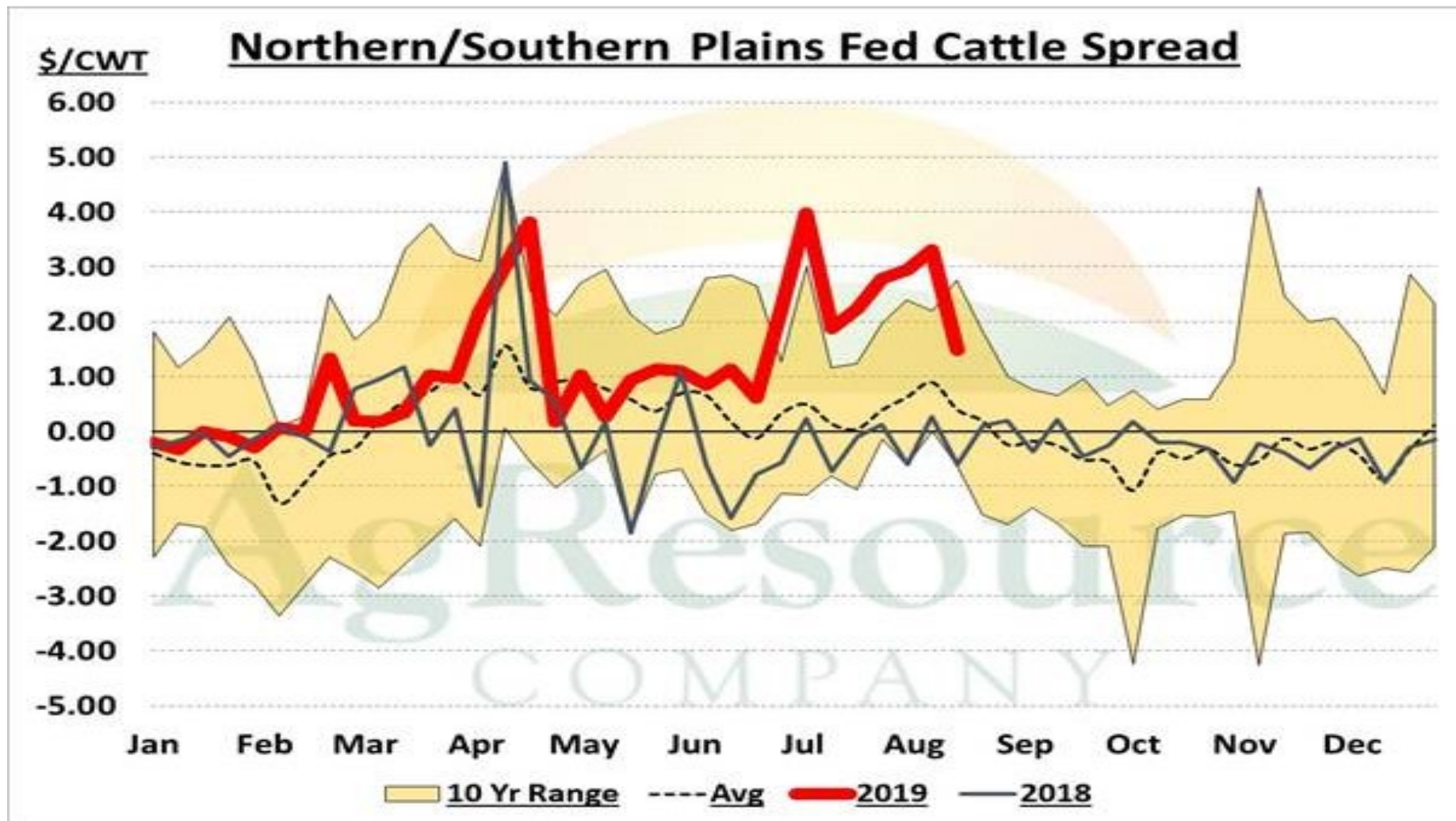
Change In Cattle and Beef Prices From January 1



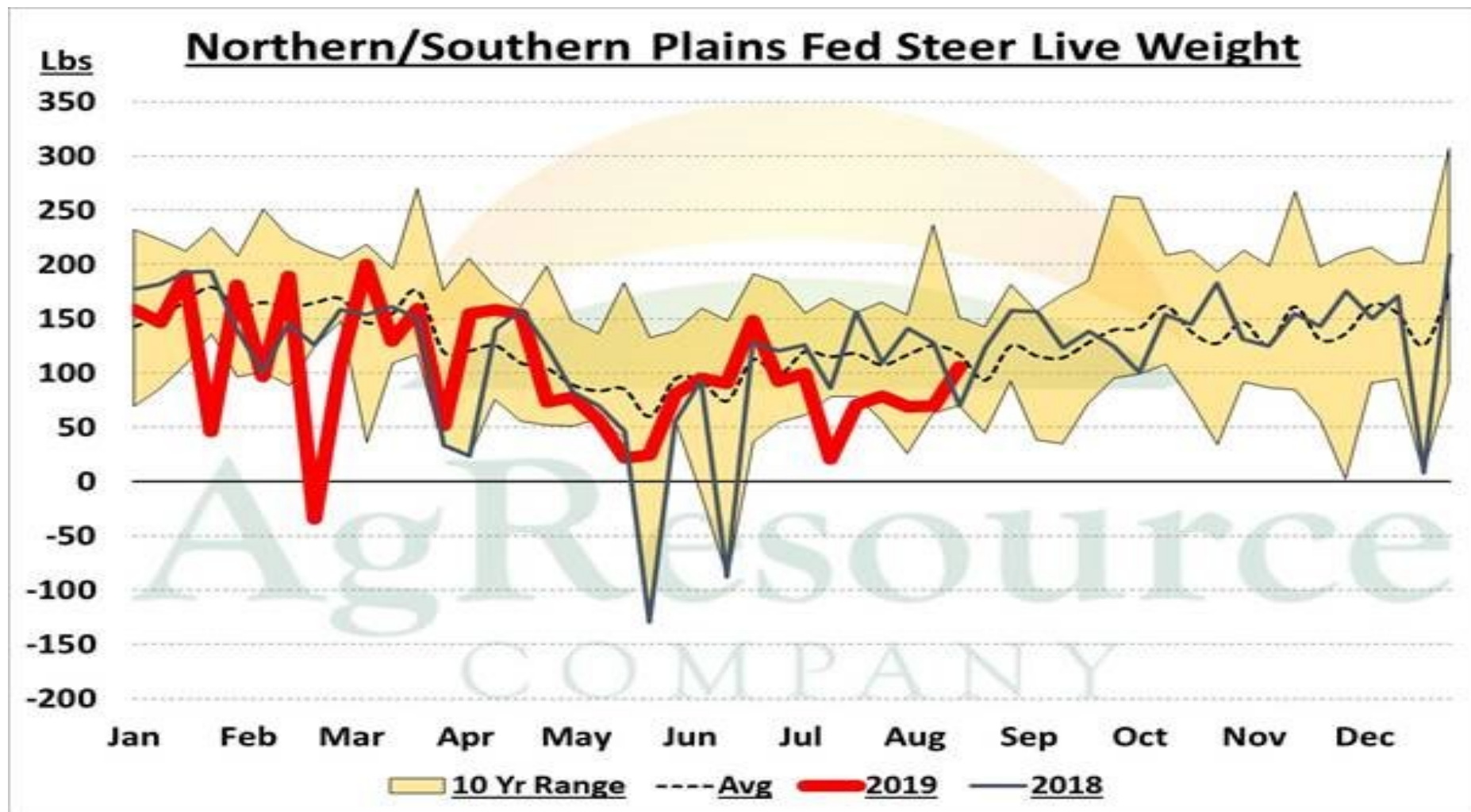
Cattle Hide Market Needs Stronger Car Demand; Offal Bottoming



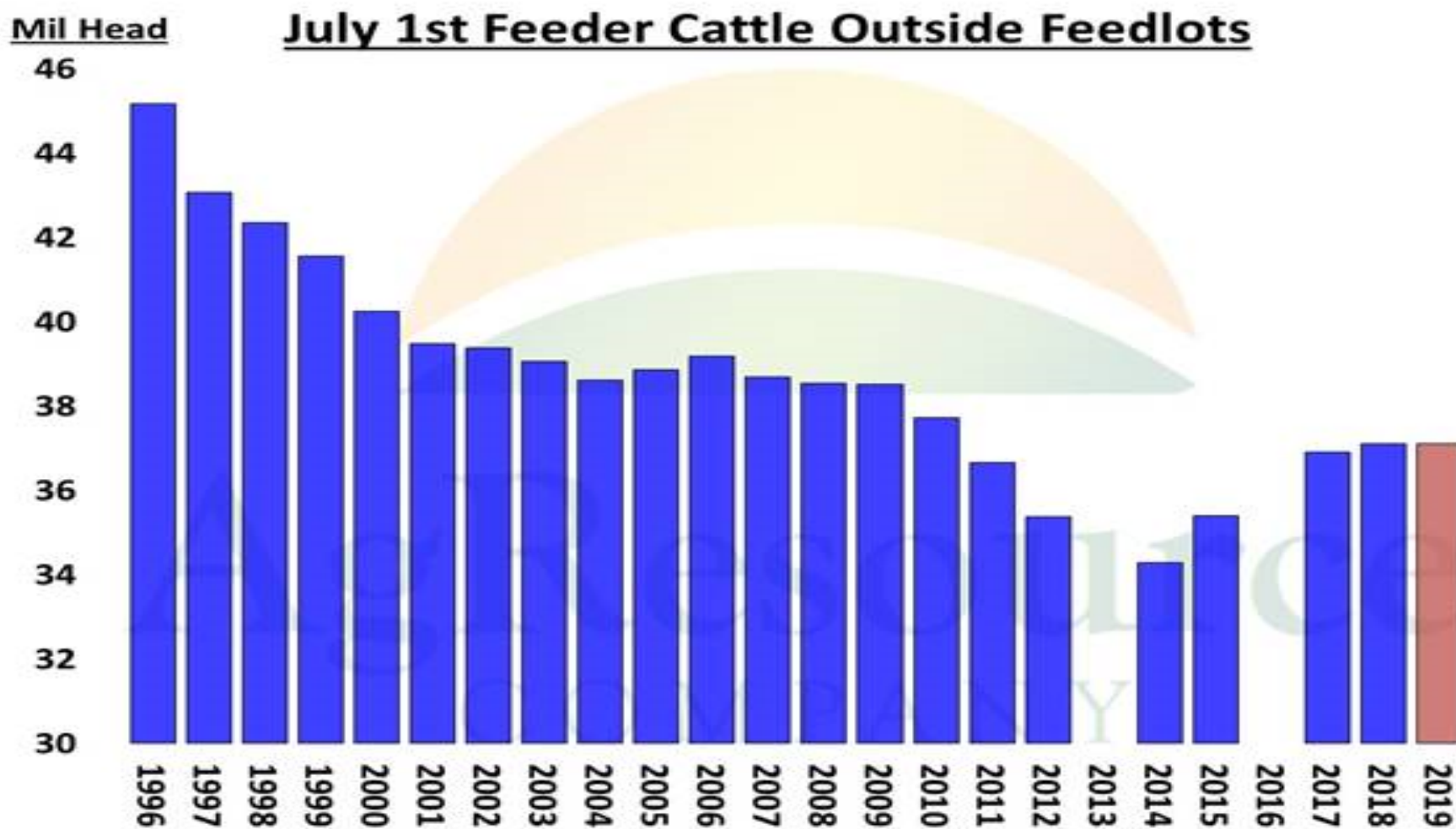
Northern Plains Fed Cattle Tightness Supports Widening Price Premiums



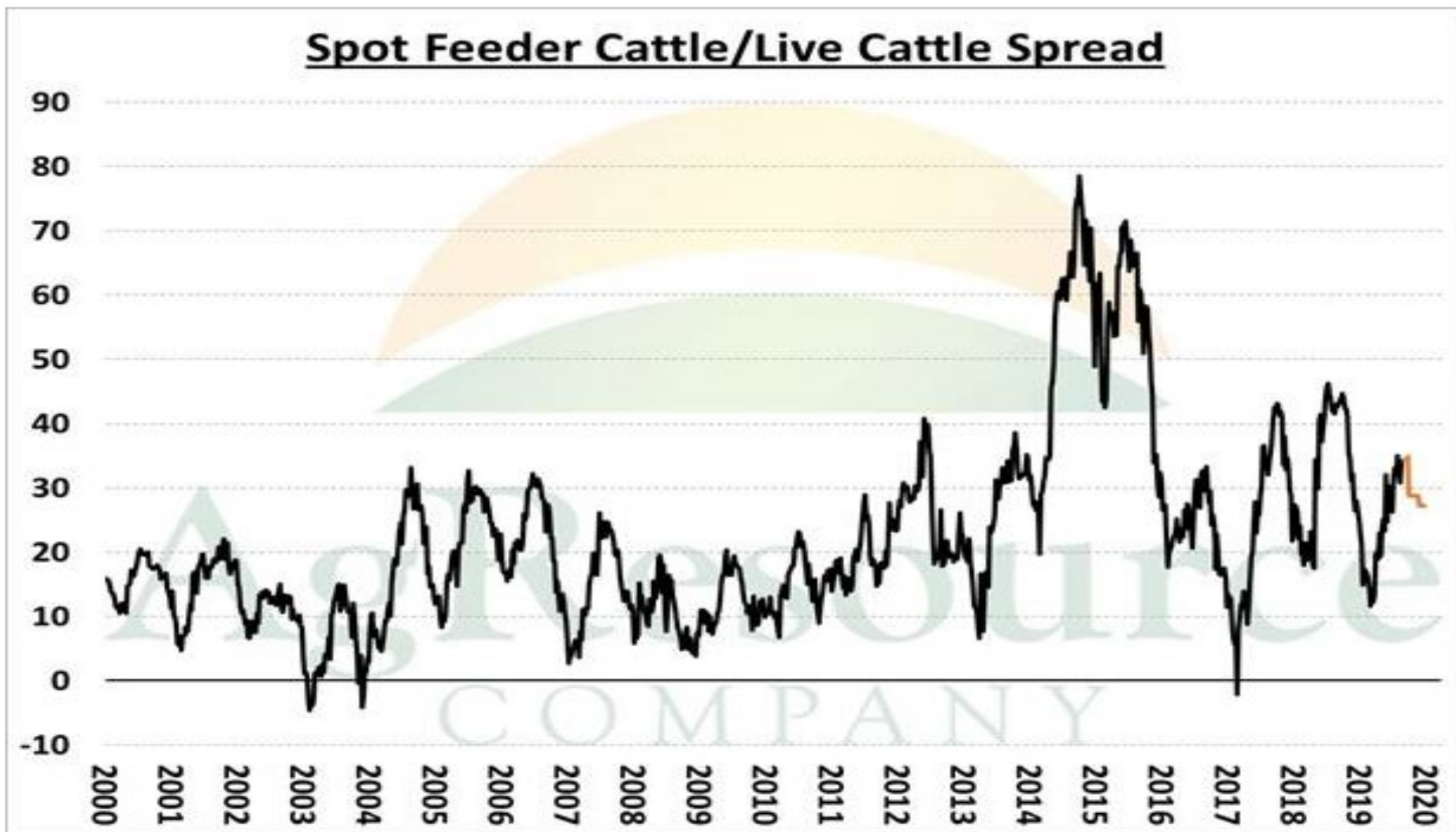
Weights Indicate that Feedyards are Current in N Plains Marketings



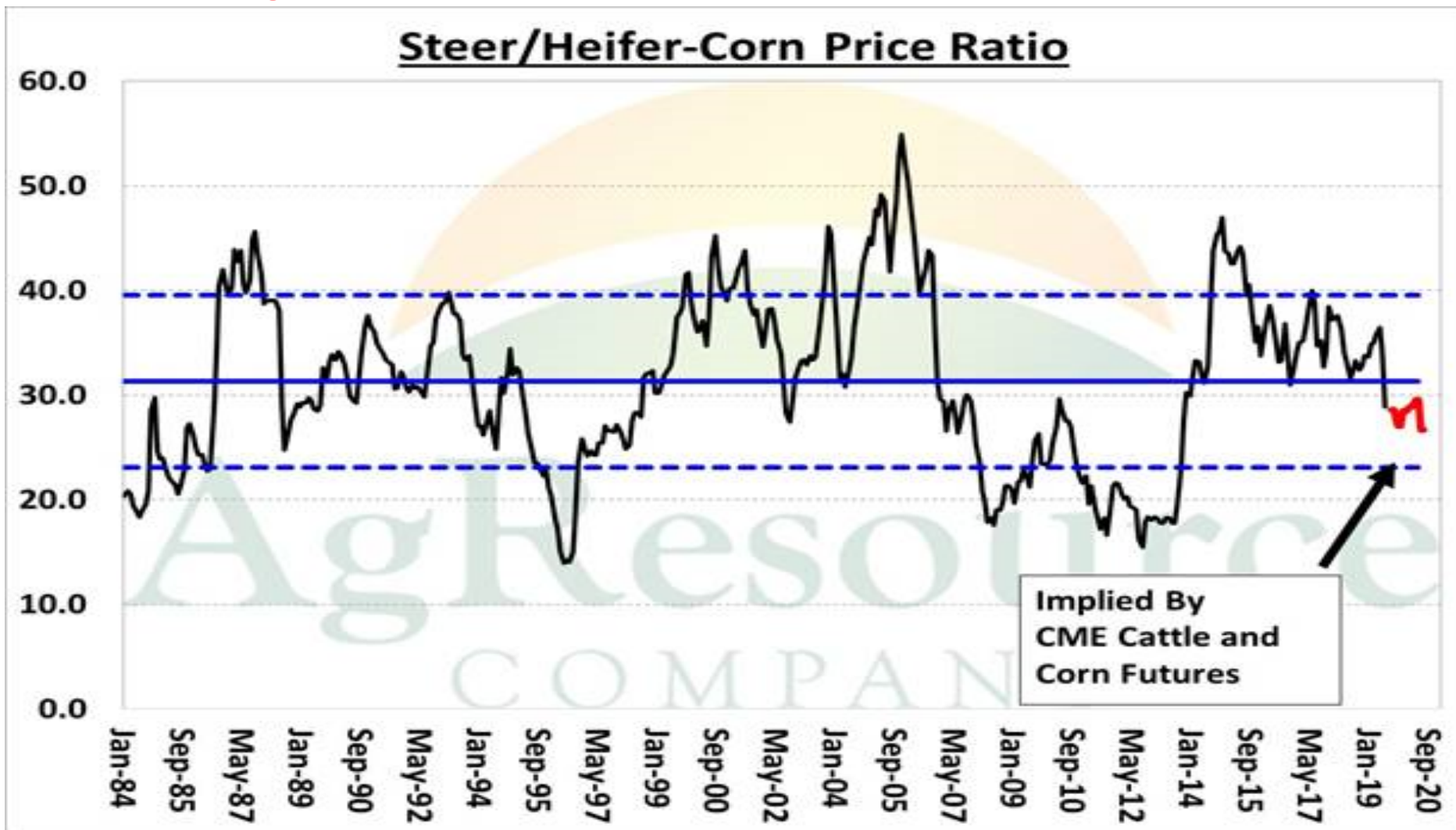
US Feeder Supplies Available Outside Lots Close to 2017-2018



Feeder/Fat Spread to Trade \$26-35.00 into early 2020

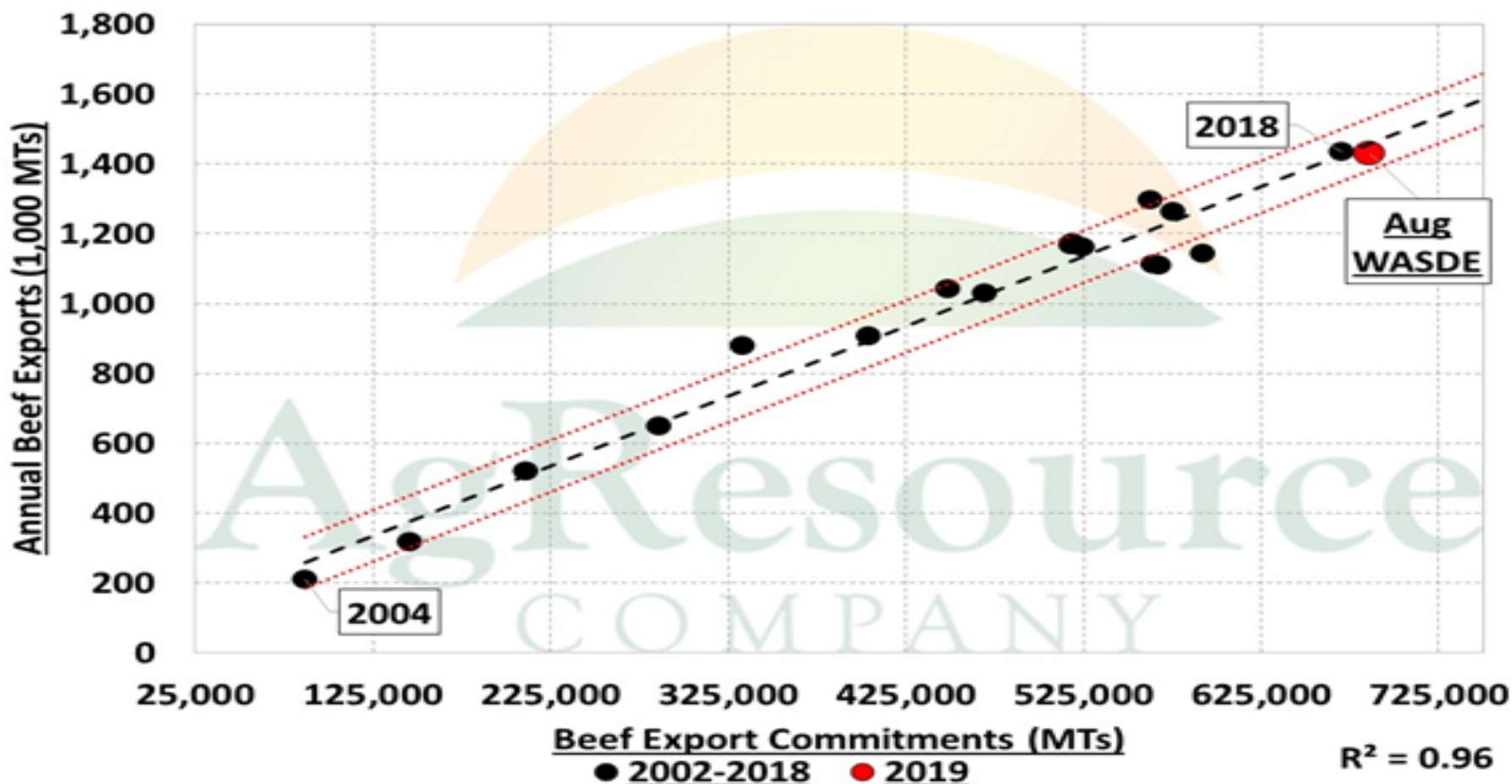


Long Term Bearish Corn Price to Underpin Feeders below \$25.00

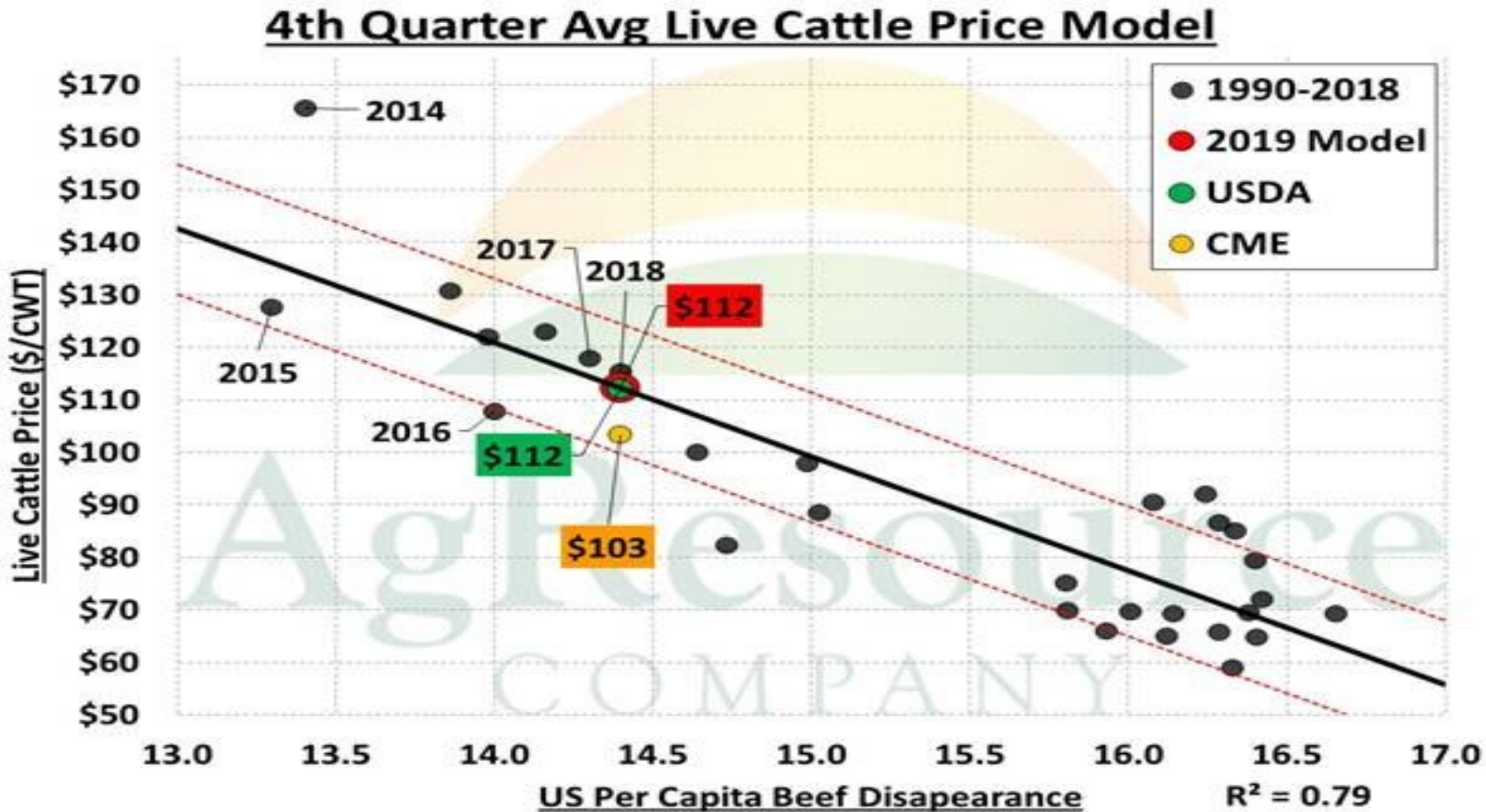


Export Commitments Argue for Further increase in US Beef Trade

US Beef Export Commitments And Annual Exports



AgResource Q4 Price Forecast at \$111-114 for Cash Cattle



**It's not enough to know the news.
You need to trust the analysis.**

Thank You