



Opportunities in Agriculture

MARKET OUTLOOK: Q2 2023



TEUCRIUM

www.teucrium.com

Risks and Disclosures

Read the prospectus carefully before investing.

A copy of the prospectus may be obtained at: www.teucrium.com

The expressed views were those of Teucrium Trading, LLC as of 04-10-2023 and may not reflect the views of Teucrium on the date the material is first published or any time thereafter. These views are intended to assist in understanding certain factors that may contribute to the price of agricultural commodities or commodity futures. In no way do the views expressed constitute investment advice, and this document should not be considered as an offer to sell or a solicitation of an offer to buy securities outside of the United States of America. Any decision to purchase or sell as a result of any information or opinions expressed in this communication will be the full responsibility of the person authorizing such transaction. An investor should consider investment objectives, risks, charges and expenses carefully before investing. The prospectus contains this and other information.

- Diversification does not ensure a profit or protect against loss. An investor should consider investment objectives, risks, charges and expenses carefully before investing. The prospectus contains this and other information. Read the prospectus carefully before investing. Shares of the Funds are not FDIC Insured, may lose value, and have no bank guarantee. All supporting documentation provided upon request. CORN, CANE, SOYB, WEAT, and TAGS are commodity pools regulated by the Commodity Futures Trading Commission (CFTC). These Funds, which are ETPs, are not mutual funds or any other type of Investment Company within the meaning of the Investment Company Act of 1940, as amended, and are not subject to regulation thereunder. The funds do not track the spot price of corn, sugar, soybeans or wheat.
- OAIA, OAIB & TILL are “non-diversified” investment companies under the Investment Company Act of 1940, as amended and, therefore, may invest a greater percentage of their assets in a particular security than a diversified fund. OAIA, OAIB & TILL are commodity pools regulated by the CFTC. OAIA, OAIB & TILL are new and have limited operating history.
- OAIA & OAIB short selling involves the sale of commodities. The short seller profits if the commodity’s price declines. If a shorted commodity increases in value, a higher price must be paid to cover the short sale, resulting in a loss. The amount the Fund could lose on a short sale is theoretically unlimited.





Risks and Disclosures Cont...

Futures Risks: Commodities and futures generally are volatile and are not suitable for all investors.

Futures investing is highly speculative and involves a high degree of risk. An investor may lose all or substantially all of an investment. Investing in commodity interests subject each Fund to the risks of its related industry. These risks could result in large fluctuations in the price of a particular Fund's respective shares. Funds that focus on a single sector generally experience greater volatility. For further discussion of these and additional risks associated with an investment in the Funds please read the respective Fund Prospectus before investing.

Futures may be affected by Backwardation: a market condition in which a futures price is lower in the distant delivery months than in the near delivery months. As a result, the fund may benefit because it would be selling more expensive contracts and buying less expensive ones on an ongoing basis; and Contango: A

condition in which distant delivery prices for futures exceeds spot prices, often due to costs of storage and insuring the underlying commodity. Opposite of backwardation. As a result, the Fund's total return may be lower than might otherwise be the case because it would be selling less expensive contracts and buying more expensive one.

Past performance is not necessarily indicative of future results. Diversification does not ensure a profit or protect against loss.

Foreside Fund Services, LLC is the distributor for the Teucrium Funds.

This material must be preceded or accompanied by a prospectus.

Check the background of our investment professional's on [FINRA's BrokerCheck](#)

Presentation Outline

Ag Market Basics

▣ The Golden Grain Cycle

- Corn
- Wheat
- Soybeans

Demand Factors

- ▣ Grains are pervasive
- ▣ Population
- ▣ Rising Incomes

Market Outlook

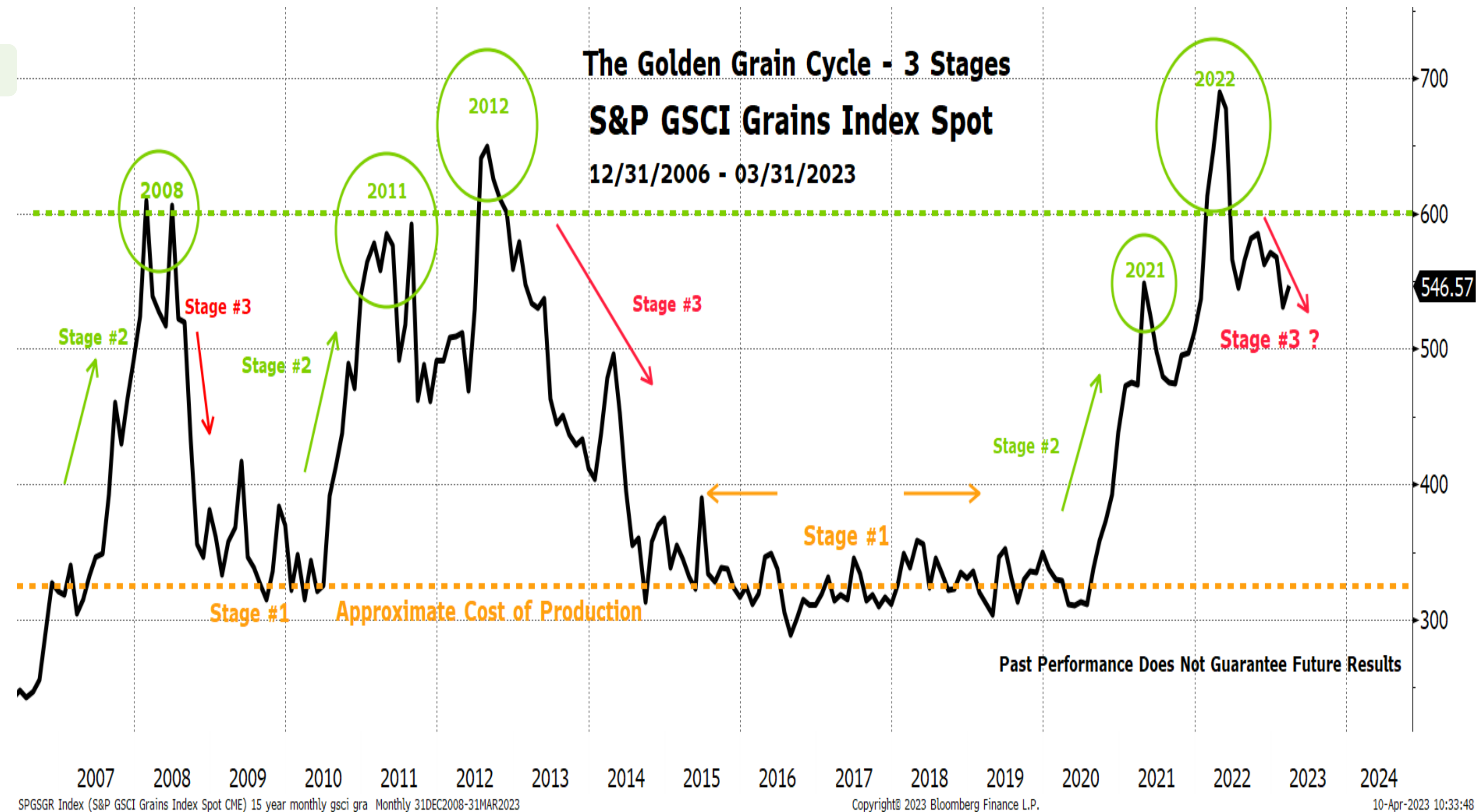
- ▣ Supply Conditions
- ▣ Challenges & Opportunities

Portfolio Considerations

- ▣ Potential Diversification Benefits
- ▣ Profit Potential Regardless of Market Trend
- ▣ Structure Matters

Ag Market Basics

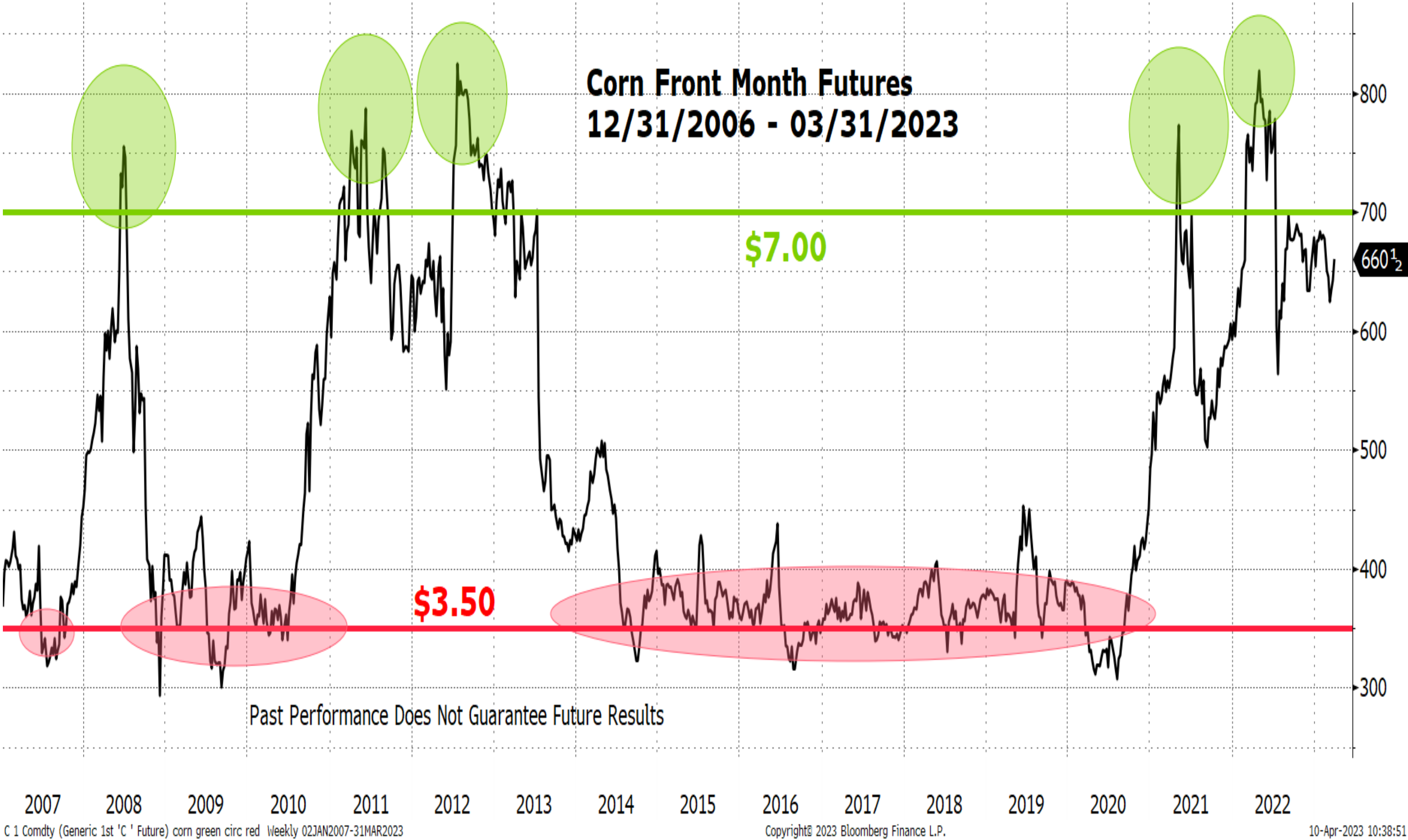
The Golden Grain Cycle



Source: Bloomberg Finance L.P.

Ag Market Basics

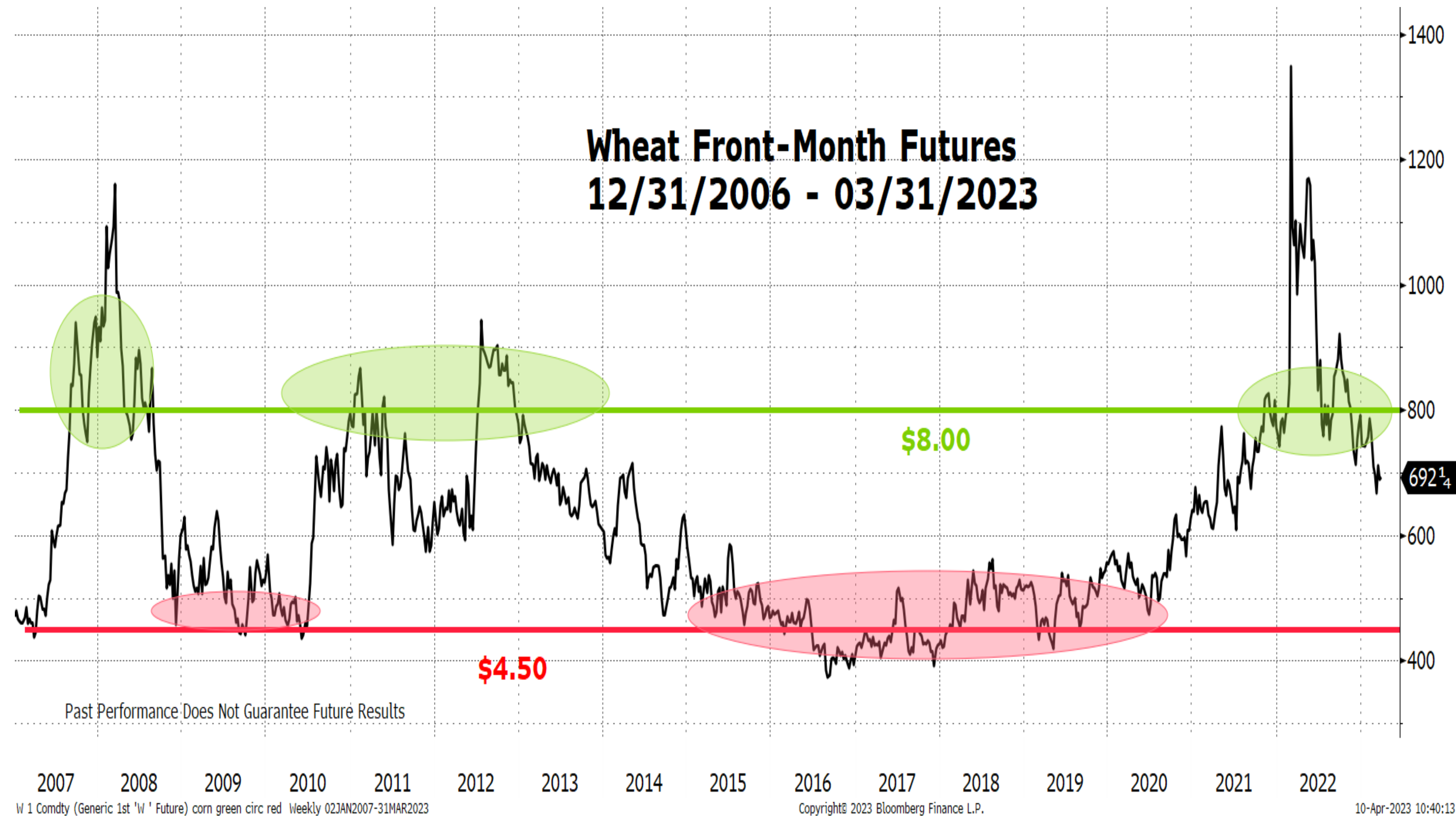
Corn Tends To Trade At Cost of Production (Red) and Spike with Supply Shocks (Green)



Source: Bloomberg Finance L.P.

Ag Market Basics

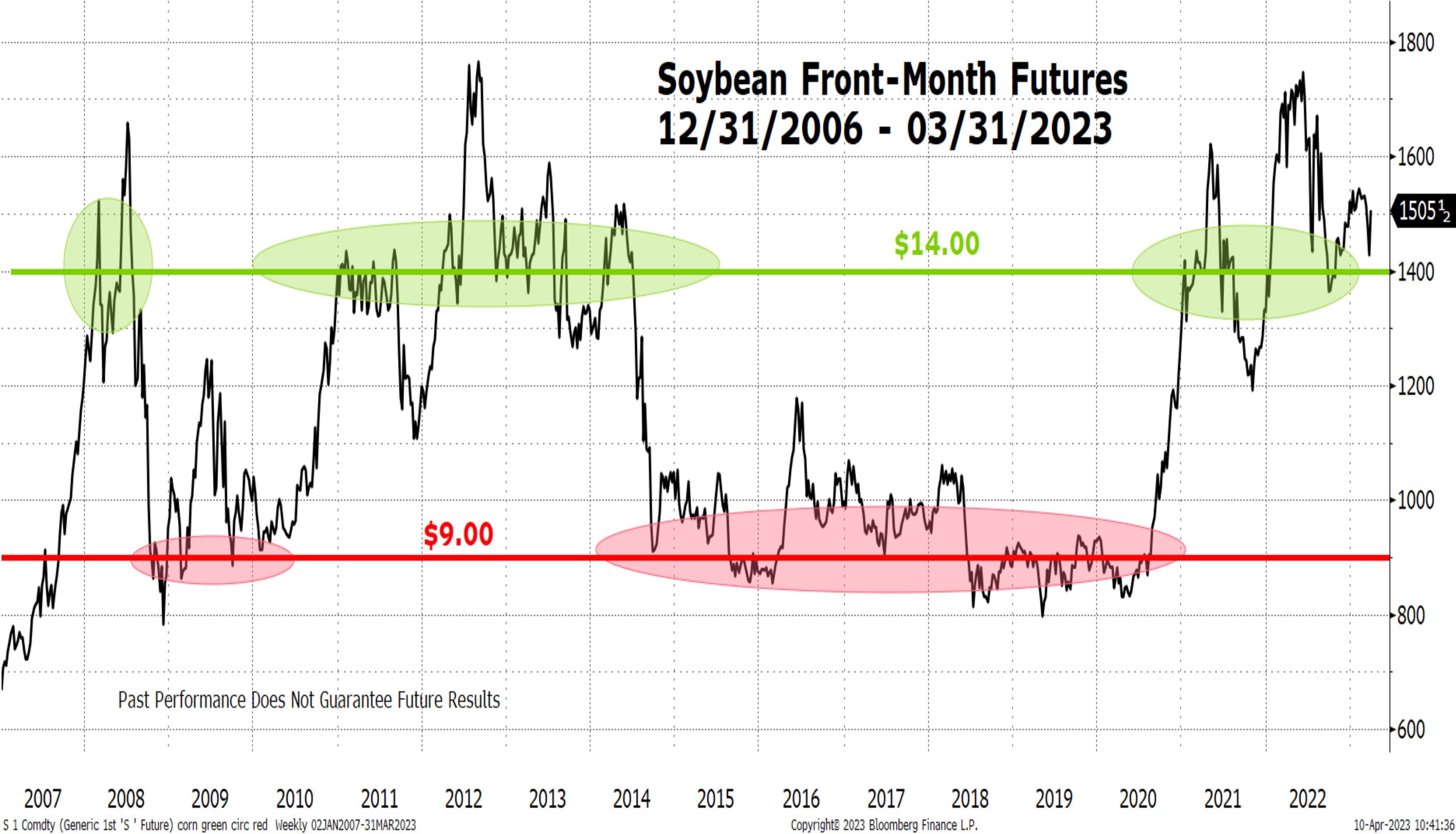
Wheat Tends To Trade At Cost of Production (Red) and Spike with Supply Shocks (Green)



Source: Bloomberg Finance L.P.

Ag Market Basics

Soybeans Tend To Trade At Cost of Production (Red) and Spike with Supply Shocks (Green)



Source: Bloomberg Finance L.P.



DEMAND FACTORS



DEMAND FACTORS

Grains are Ingredients In Many of the Things We Consume Each and Every Day

Corn



is one of the most important agricultural commodities, used throughout the global economy for feed, fuel, starch, sweeteners and plastics.

Soybeans

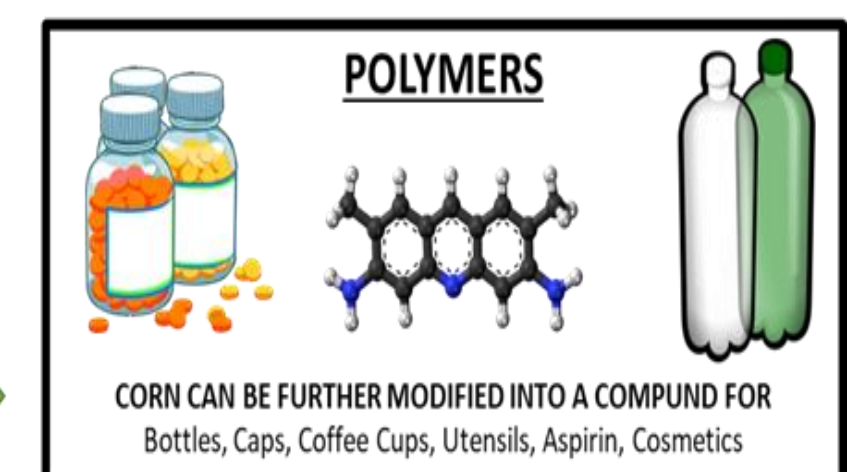
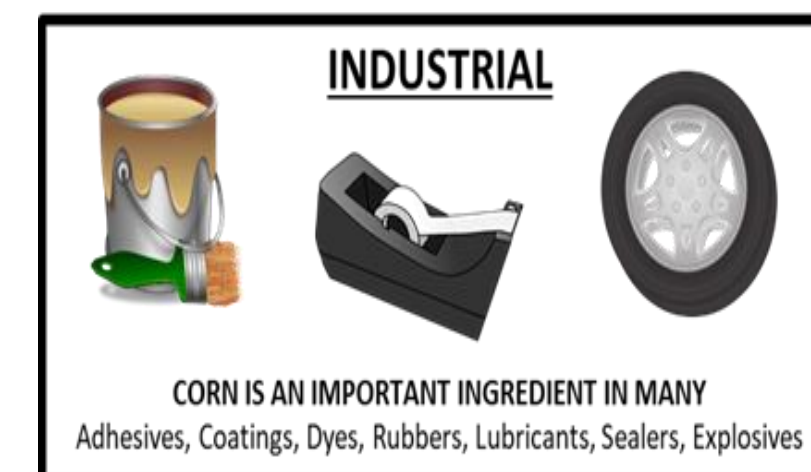
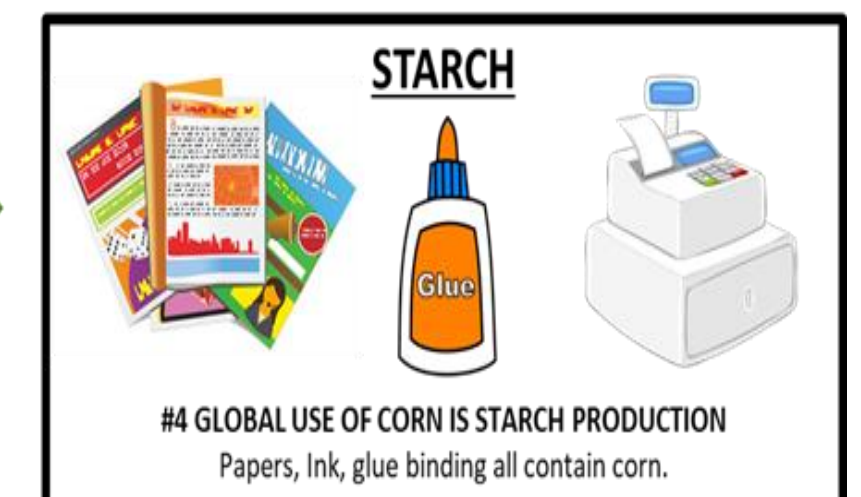
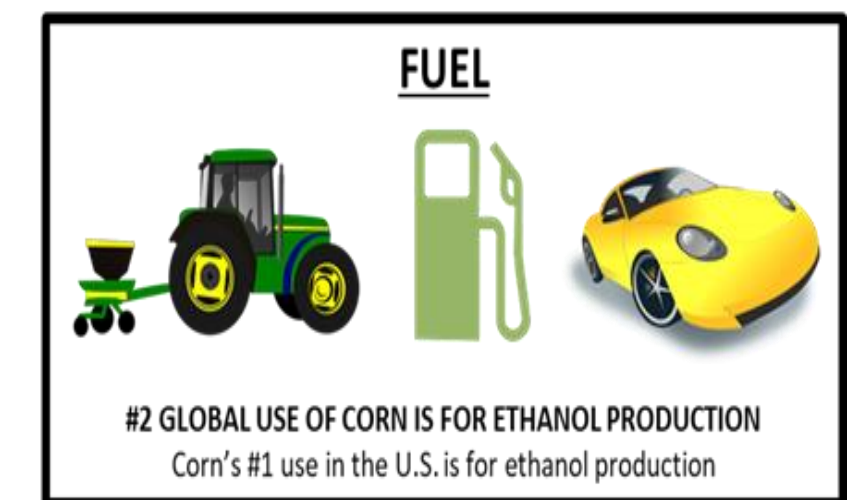
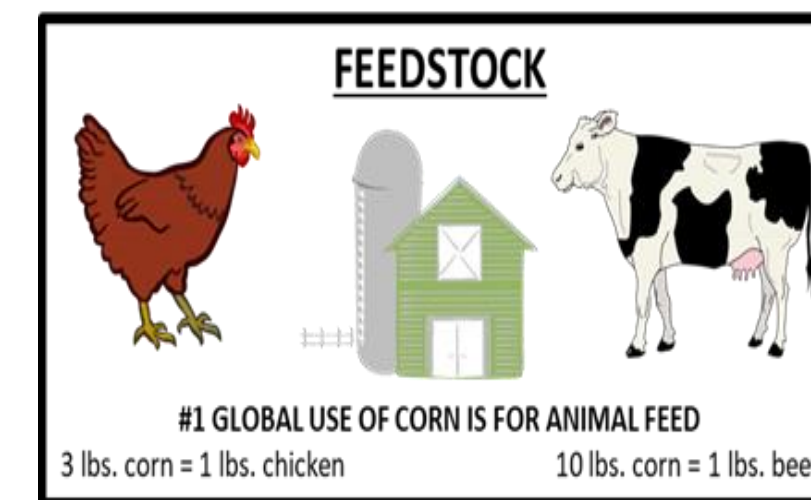


are one of the most important agricultural commodities, used throughout the global economy for feed, oils, wood substitutes, foam, ink, and crayons.

Wheat



is one of the most important agricultural commodities, used throughout the global economy for food, animal feed, fuel, starch, paper, particleboard, and plastic.



DEMAND FACTORS

Global Population

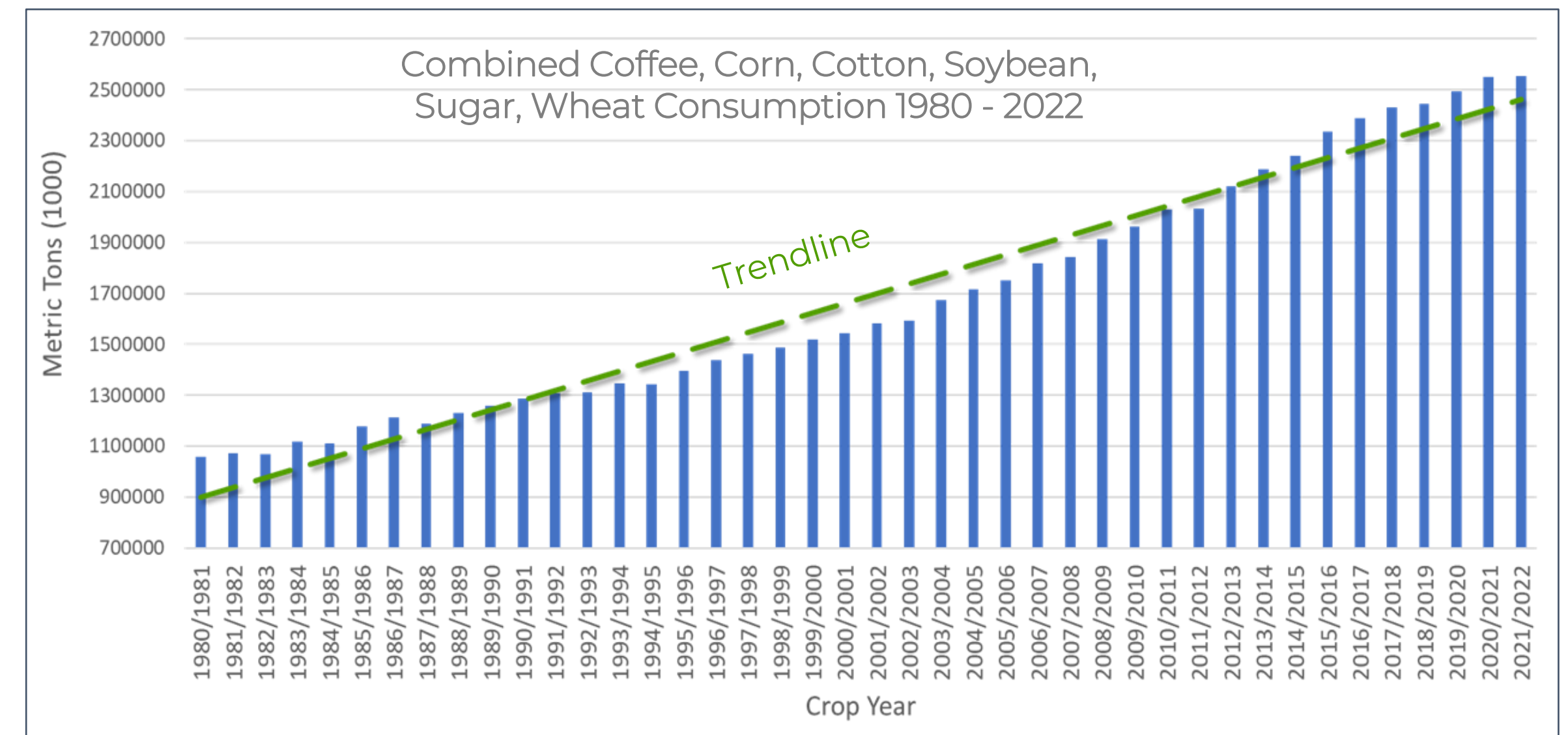
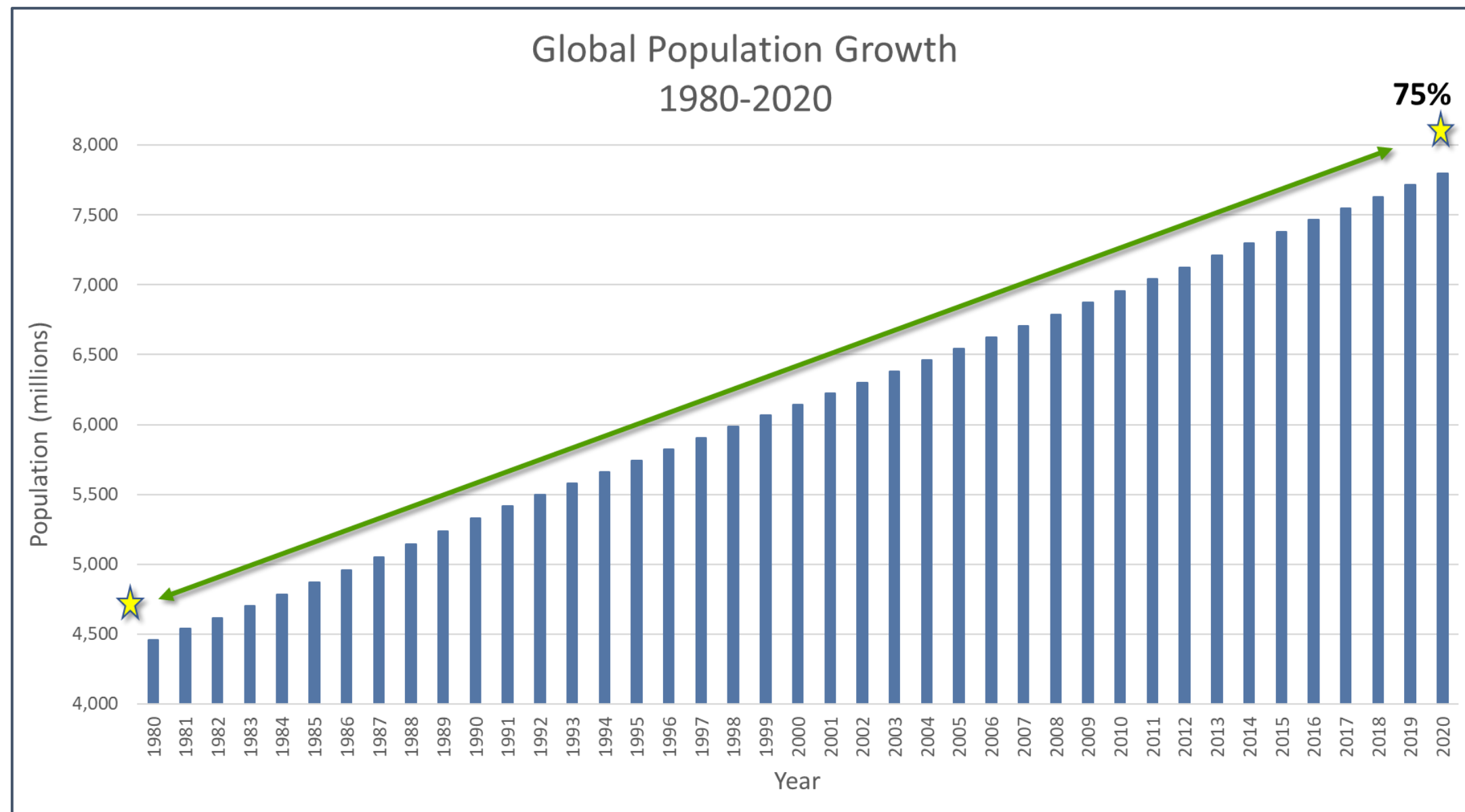
▣ If you can recall the Carter Presidency, you've witnessed the world's population increase by **75%** in only the past 40-years

▣ Increased population means increased demand for just about everything, and it absolutely means increased demand for food commodities



FAST FACT:

The global population grew by **75%** in the 40 years between 1980 - 2020



Source: Worldometers & USDA

DEMAND FACTORS

More People Eating More Grain

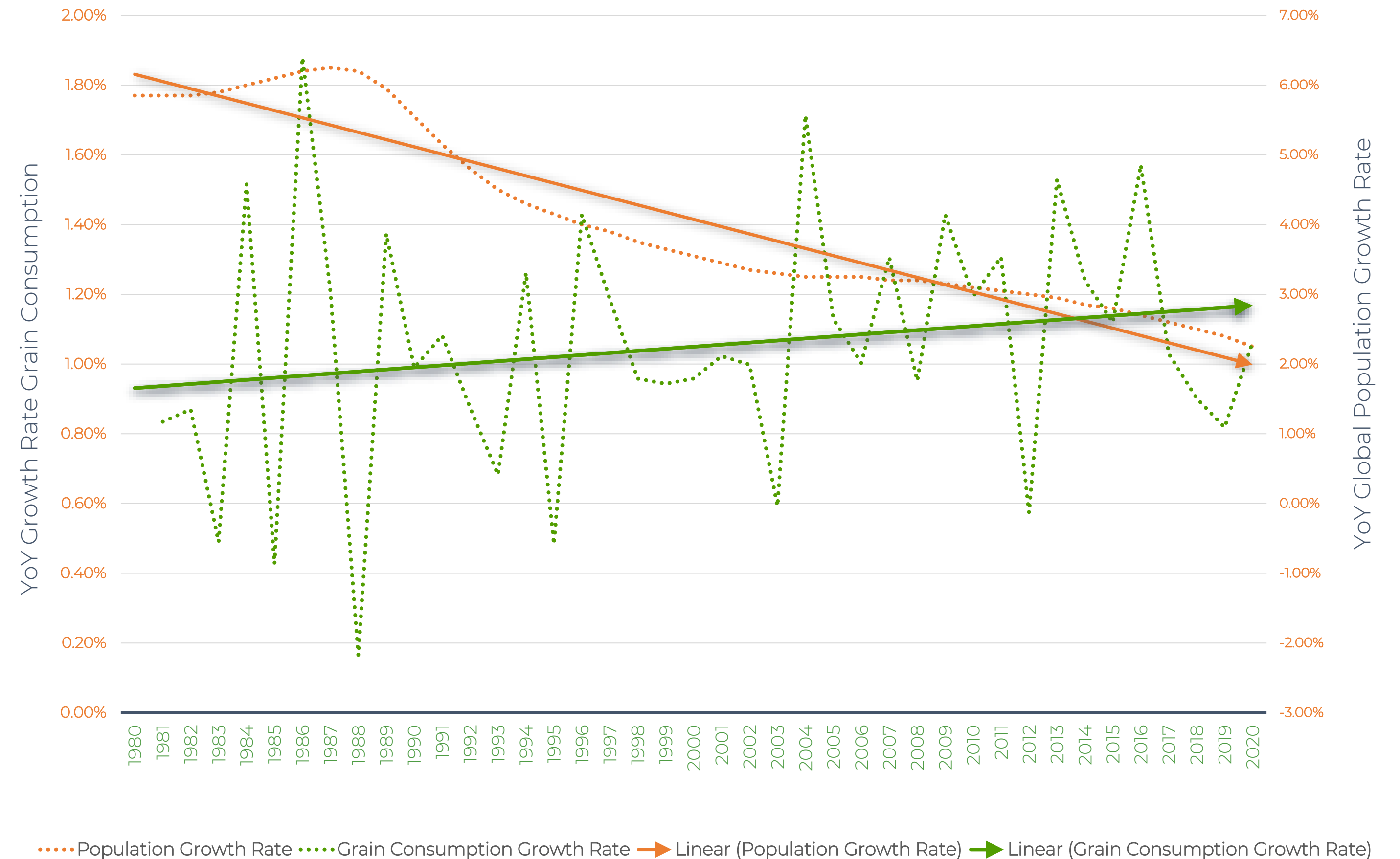
- ▣ The population growth rate is in a steady decline
- ▣ The per person grain consumption growth rate is volatile yet is trending higher



FAST FACT:

The per person grain consumption (corn, wheat, soybeans) jumped **40%** between 1980 and 2020

Grain Consumption Growth Rate Increases
Even as Population Growth Rate Decreases



Source:
USDA

DEMAND FACTORS

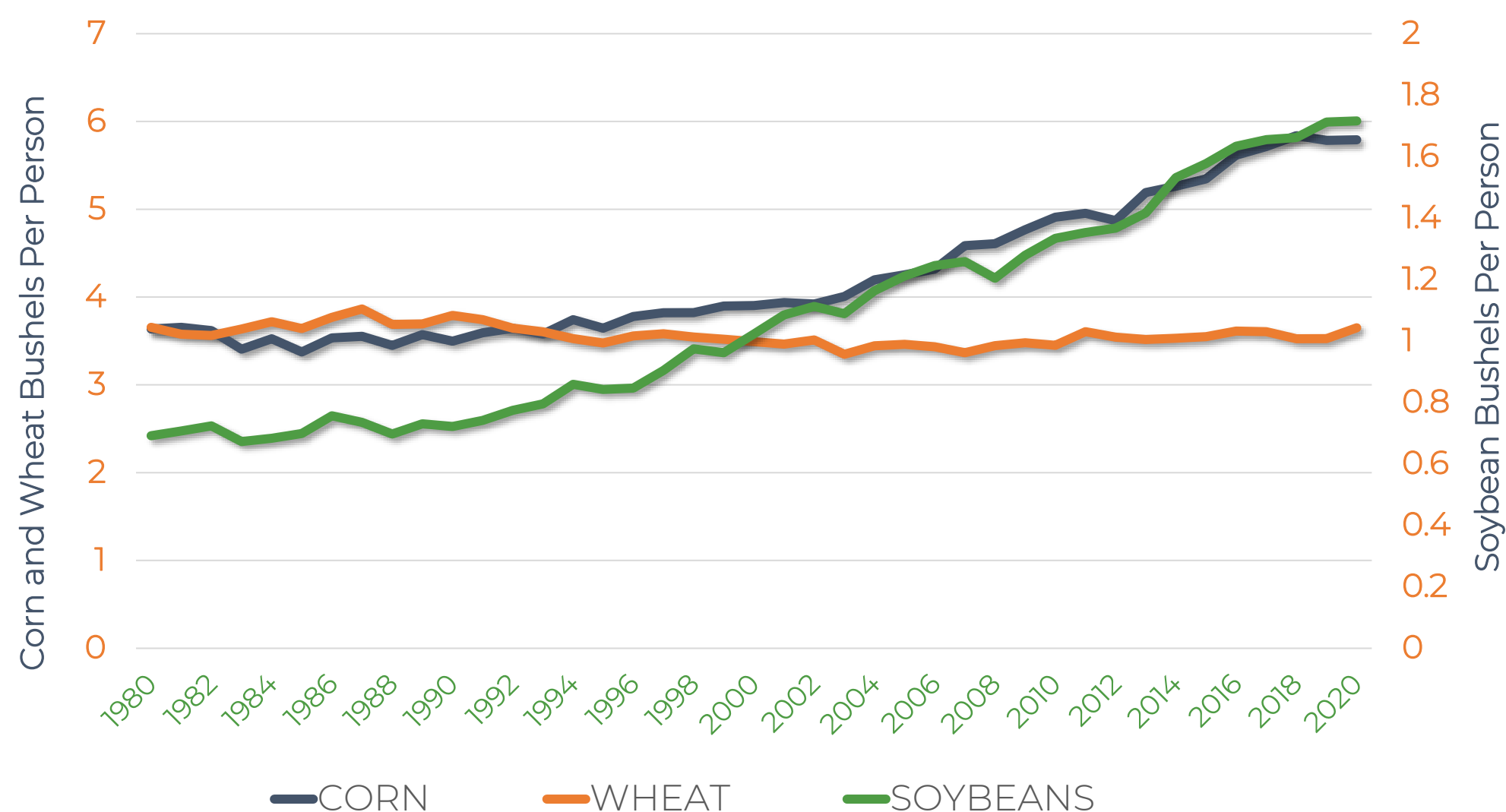
More People Eating More Grain



FAST FACT:

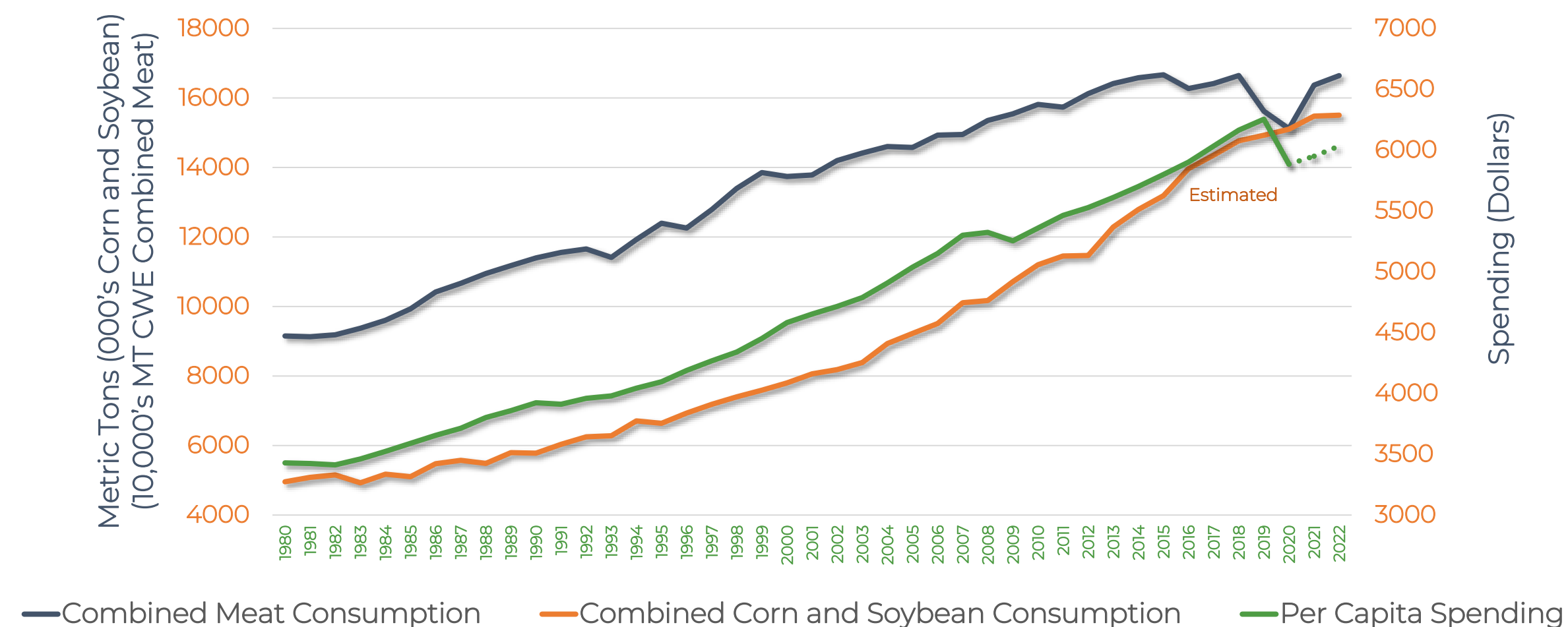
In 2018 humanity crossed a milestone when for the first time more than **50%** of the global population was designated middle class

Global Per Person Usage
Corn, Wheat, Soybeans 1980 - 2020



- Rising Global Incomes > Increased
- Demand for Animal Protein > Increased
- Demand for Animal Feed

Global Per Capita Spending, Meat, Corn & Soybean Demand



- Growth in per-person consumption for corn and soybeans has far outpaced that of wheat
- An expanding global middle class further supports global grain demand growth

Source: USDA, World Bank & Brookings Institute



MARKET OUTLOOK

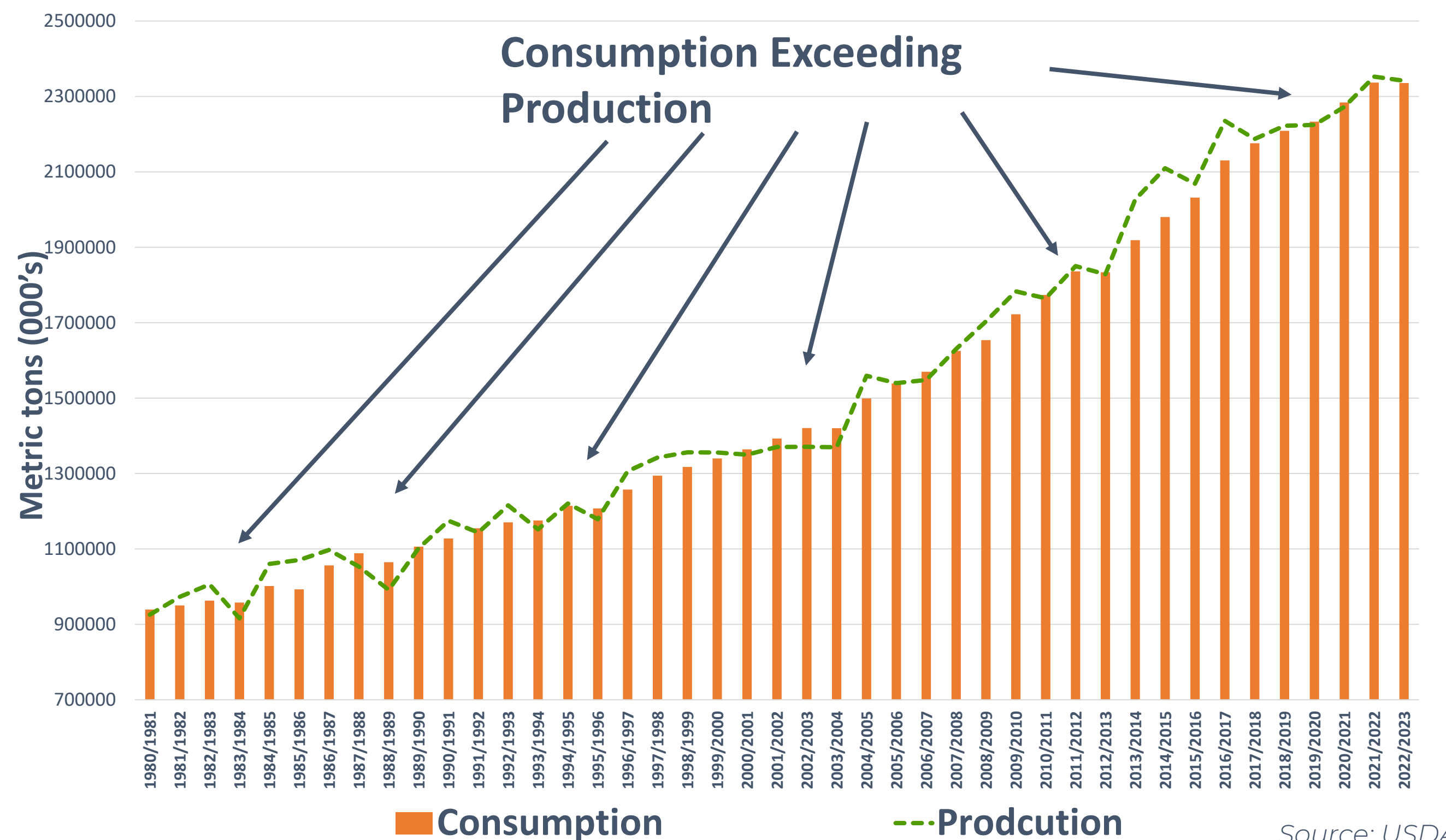


MARKET OUTLOOK

Production Does Not Always Keep Pace With Consumption

- Crop production is weather dependent
- Weather is variable, therefore crop production is variable
- Yet, demand growth is persistent
- Surplus production results in increased ending stocks, or inventories
- Ending stocks are drawn down in years where consumption exceeds production

Combined Coffee, Corn, Cotton, Soybean, Sugar, Wheat Production and Consumption 1980-2022



Source: USDA

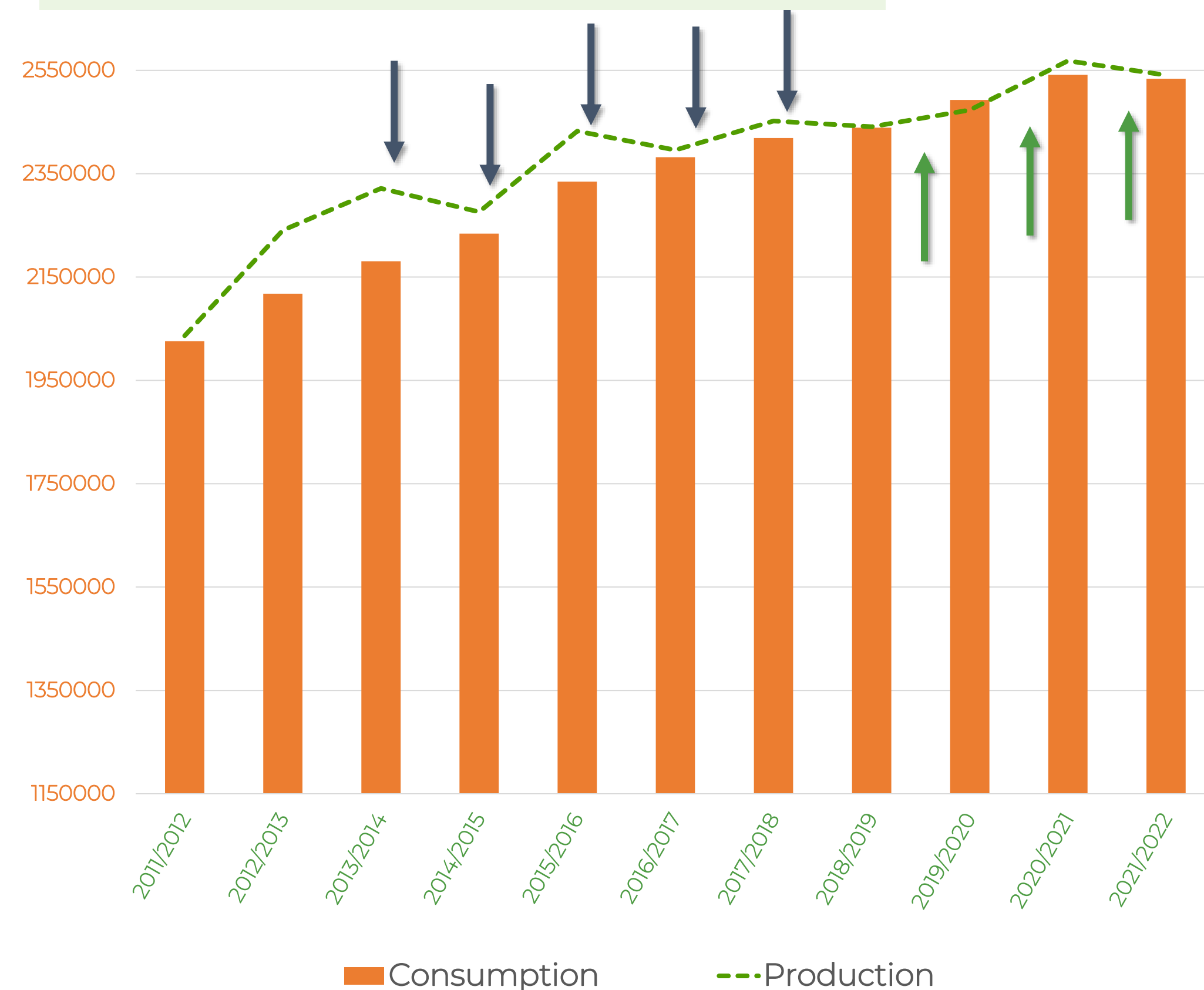


KEY TERM:

Ending Stocks – excess inventory that is carried over into the next crop year...a.k.a. carry-out.

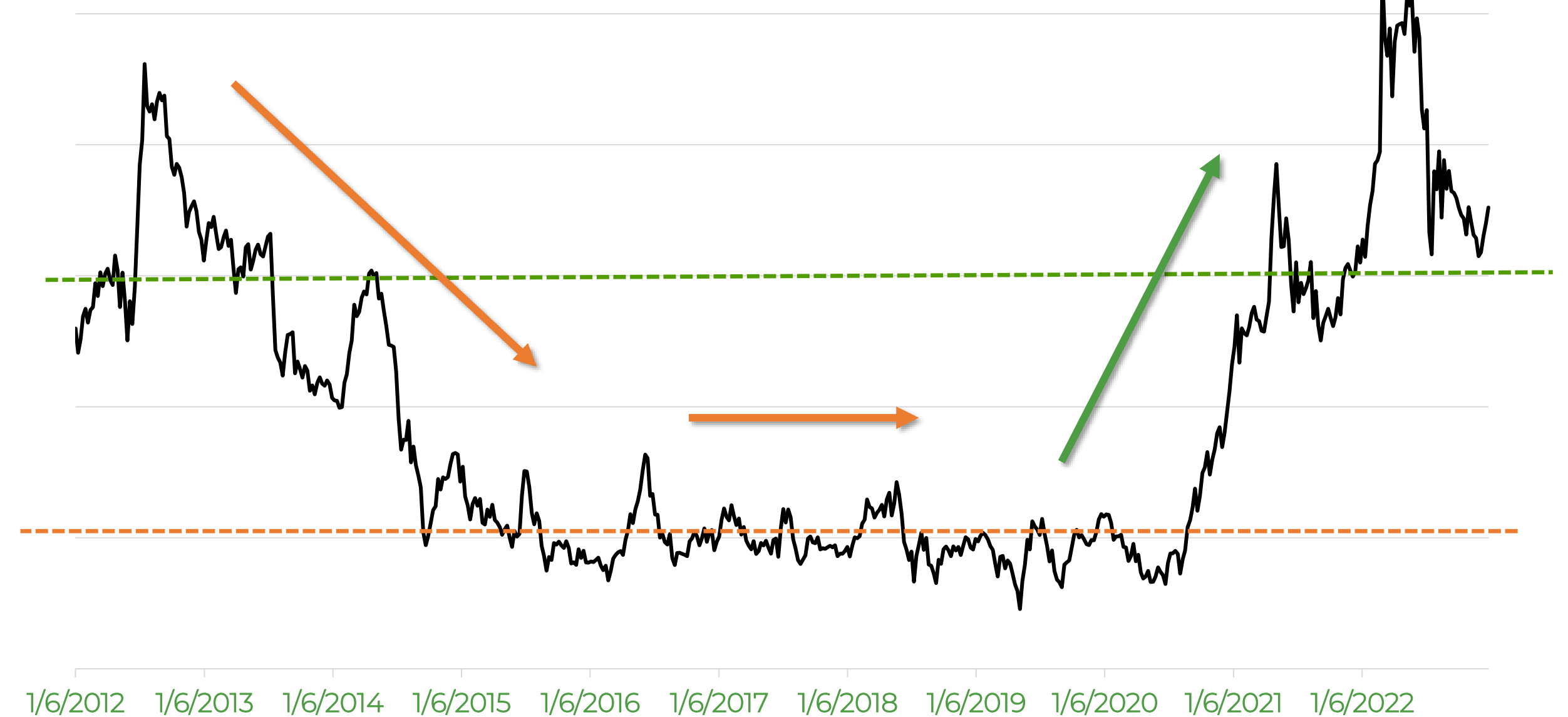
MARKET OUTLOOK

Combined Coffee, Corn, Cotton, Soybean, Sugar, Wheat Production and Consumption 2011-2022



- When production outpaces consumption, prices tend to drop to the cost of production in the futures market (red arrows)
- Conversely, when consumption exceeds production, prices have typically risen due to supply worries and dwindling inventories (green arrows).

Combined Coffee, Corn, Cotton, Soybean, Sugar, Wheat Prices 2012-2022



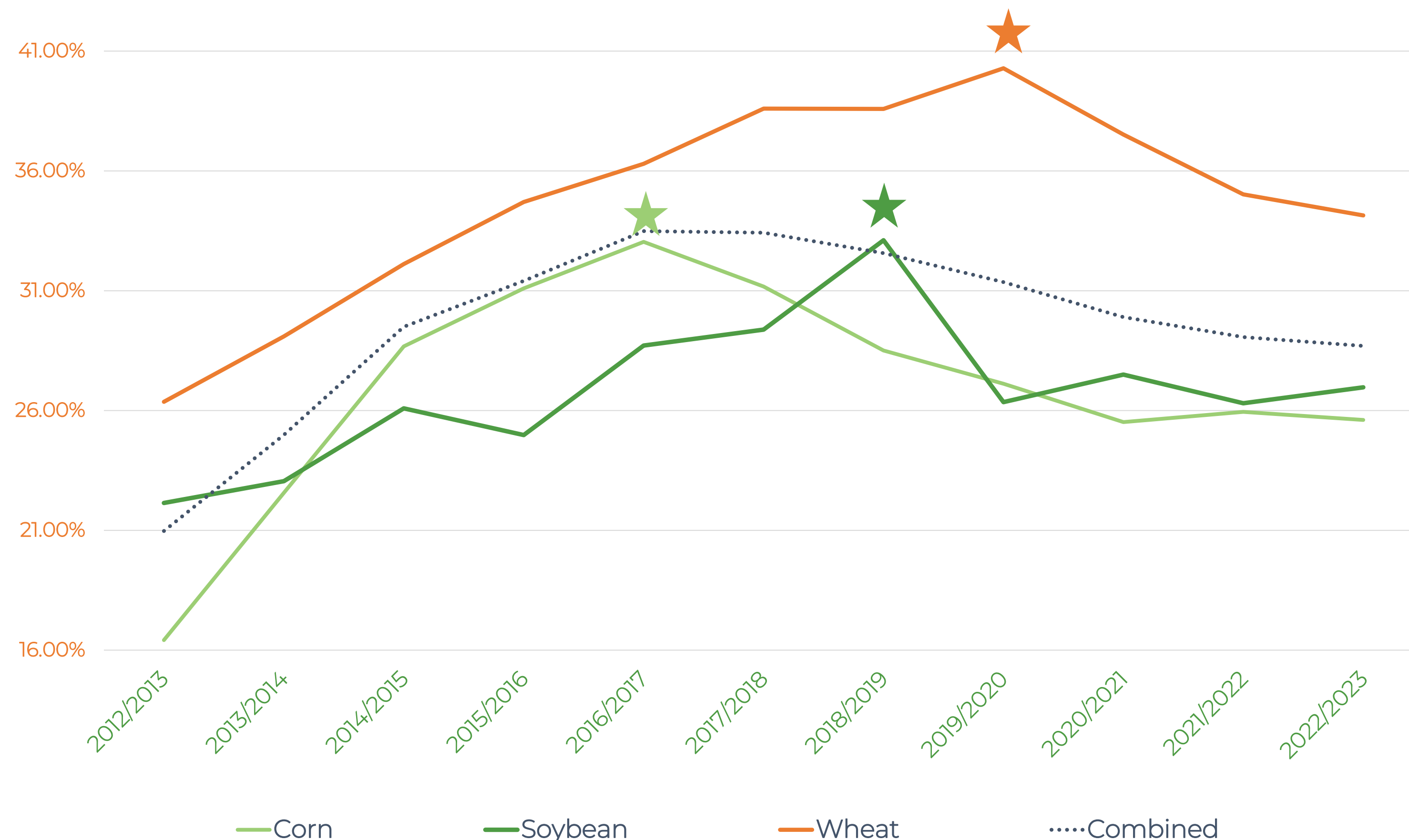
Source: USDA & Bloomberg Finance, L.P.

MARKET OUTLOOK

Combined Global Corn,
Soybean, and Wheat Supplies
Shrink Relative to Demand

- Global corn supplies peaked in 2016/2017
- Global soybean supplies peaked in 2018/2019
- Global wheat supplies peaked in 2019/2020

Global Stocks/Use Ratios Corn, Soybean, Wheat



Source: USDA

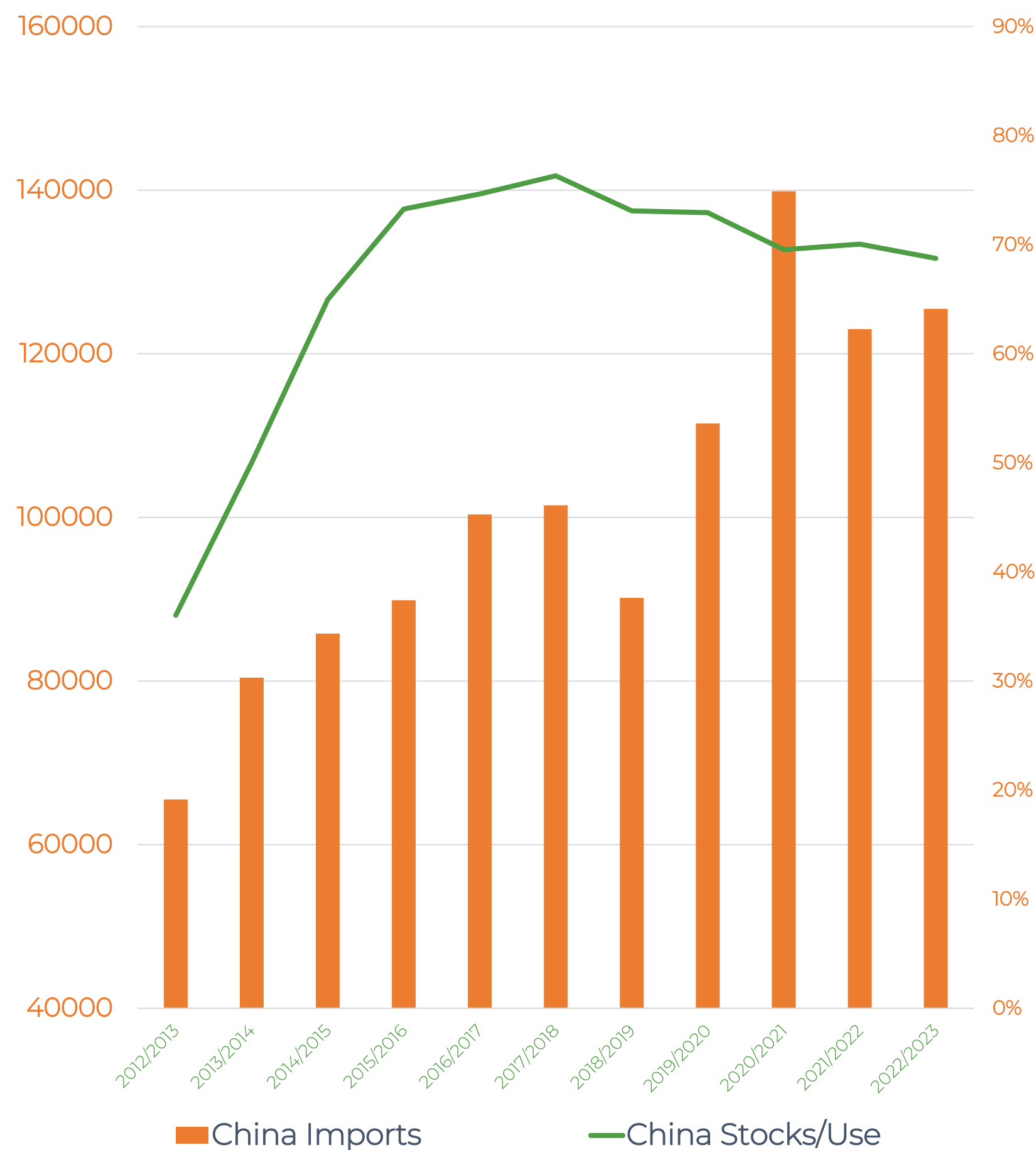


KEY TERM:

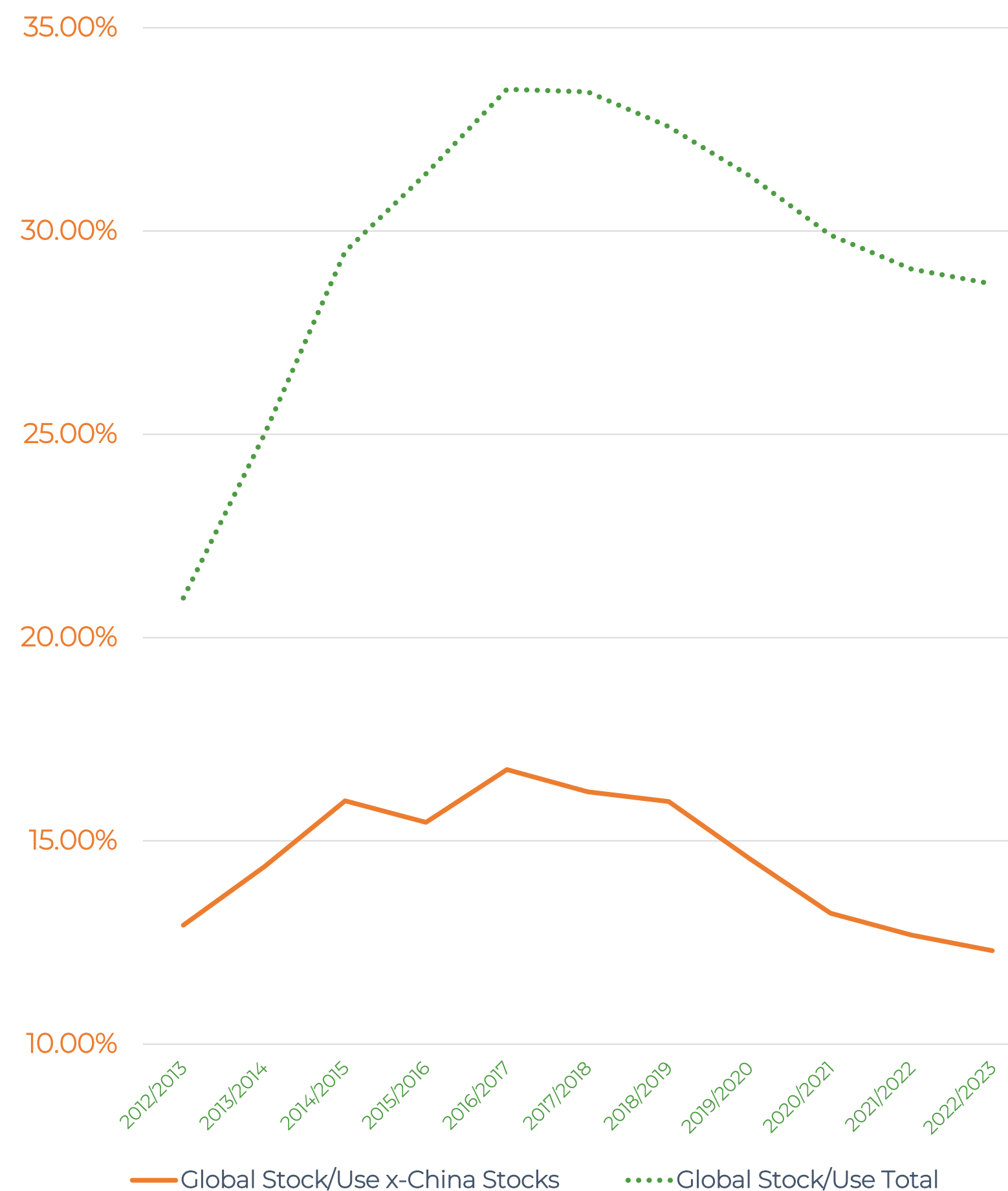
Stocks/Use Ratio – Determined by dividing ending stocks by total usage. A quick way to evaluate balance sheet conditions, i.e. available supplies relative to demand

MARKET OUTLOOK

China Combined Corn, Soybean, and Wheat Imports & Stocks/Use Ratio



Global Combined Corn, Soybean, Wheat Stocks/Use Ratio vs. x-China



Source: USDA



FAST FACT:

According to official data, **57%** of the world's combined corn, soybean, and wheat supply is in China

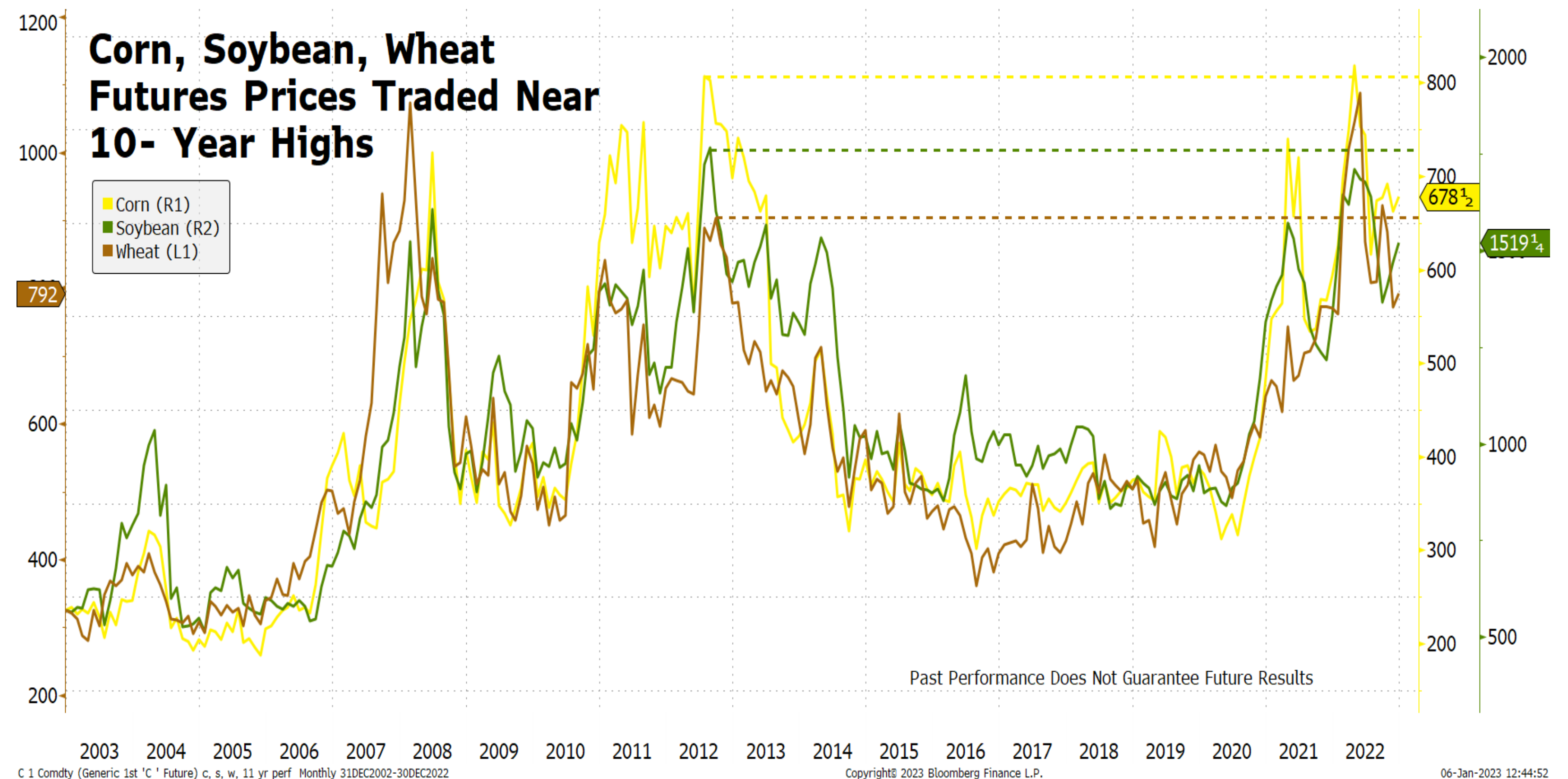
What if Chinese food supplies are lower compared to official reports?

- Over the past 3-years China has imported a record amount of corn, soybeans, and wheat combined
- Combined Chinese corn, soybean, and wheat stocks/use ratio is a staggering 70%
- The food that is in China is staying in China

MARKET OUTLOOK

US Futures Prices Traded Near 10-Year Highs in 2022

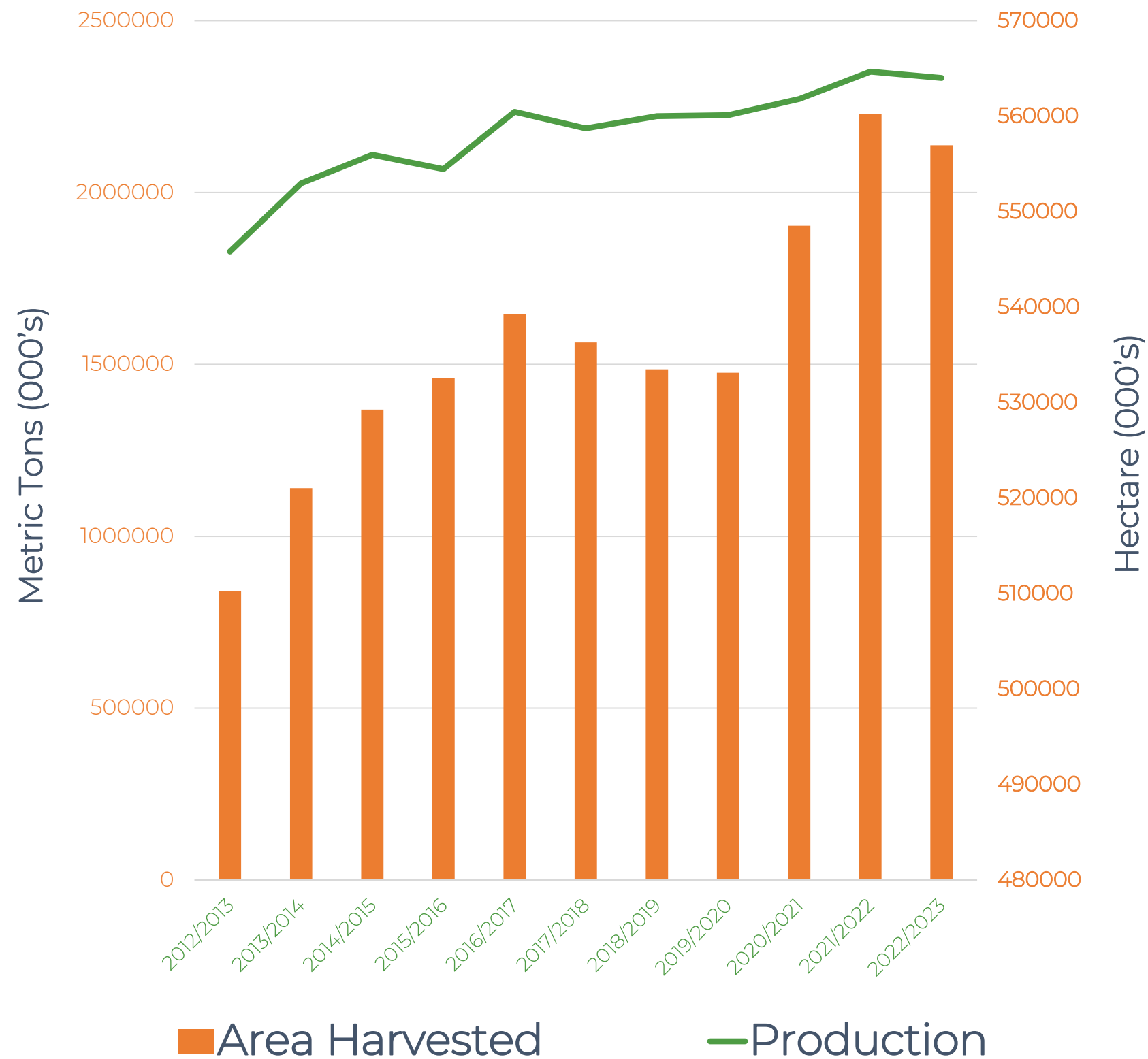
- Global stocks/use (excluding China stocks) back near 10-year lows
- Price action appears reasonable
- Still, prices remain elevated relative to production costs and may trend lower, near term



Source: Bloomberg Finance L.P.

MARKET OUTLOOK

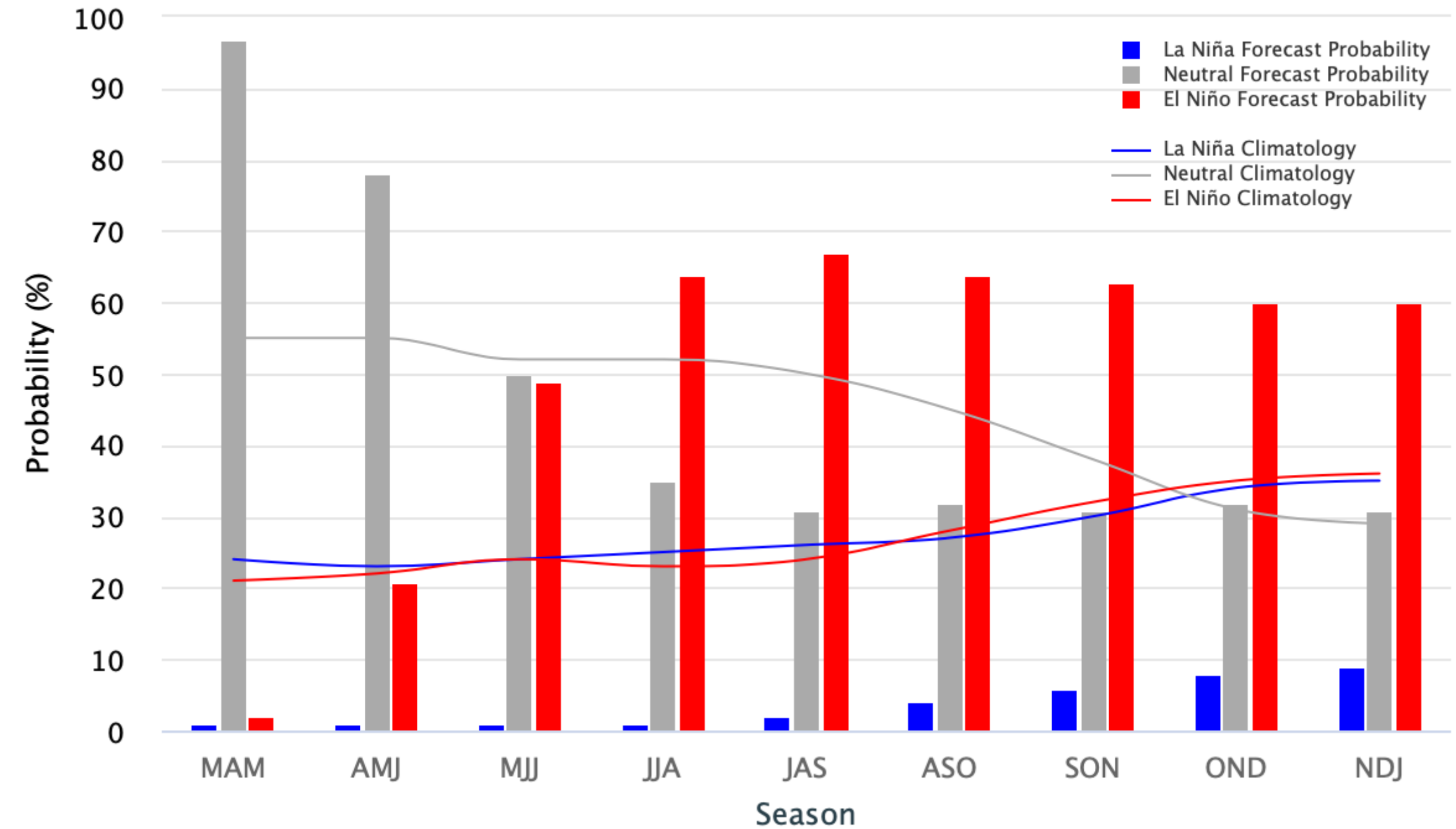
Global Area Harvested & Total Production



Source: USDA & International Research Institute for Climate and Society

Mid-March 2023 IRI Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly Neutral ENSO: -0.5 °C to 0.5 °C



Farmers Plant More, But Weather Keeping a Lid on Production

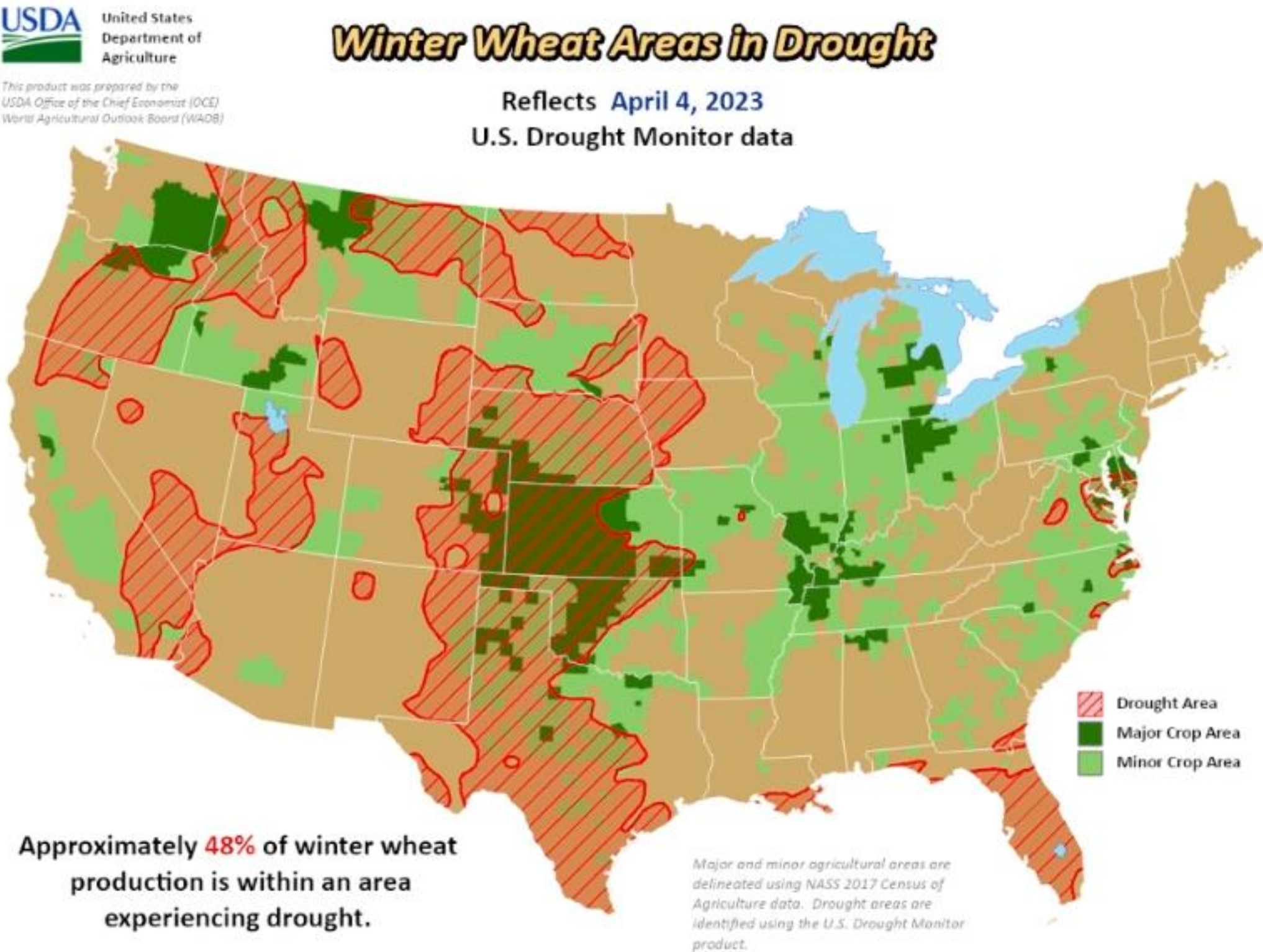
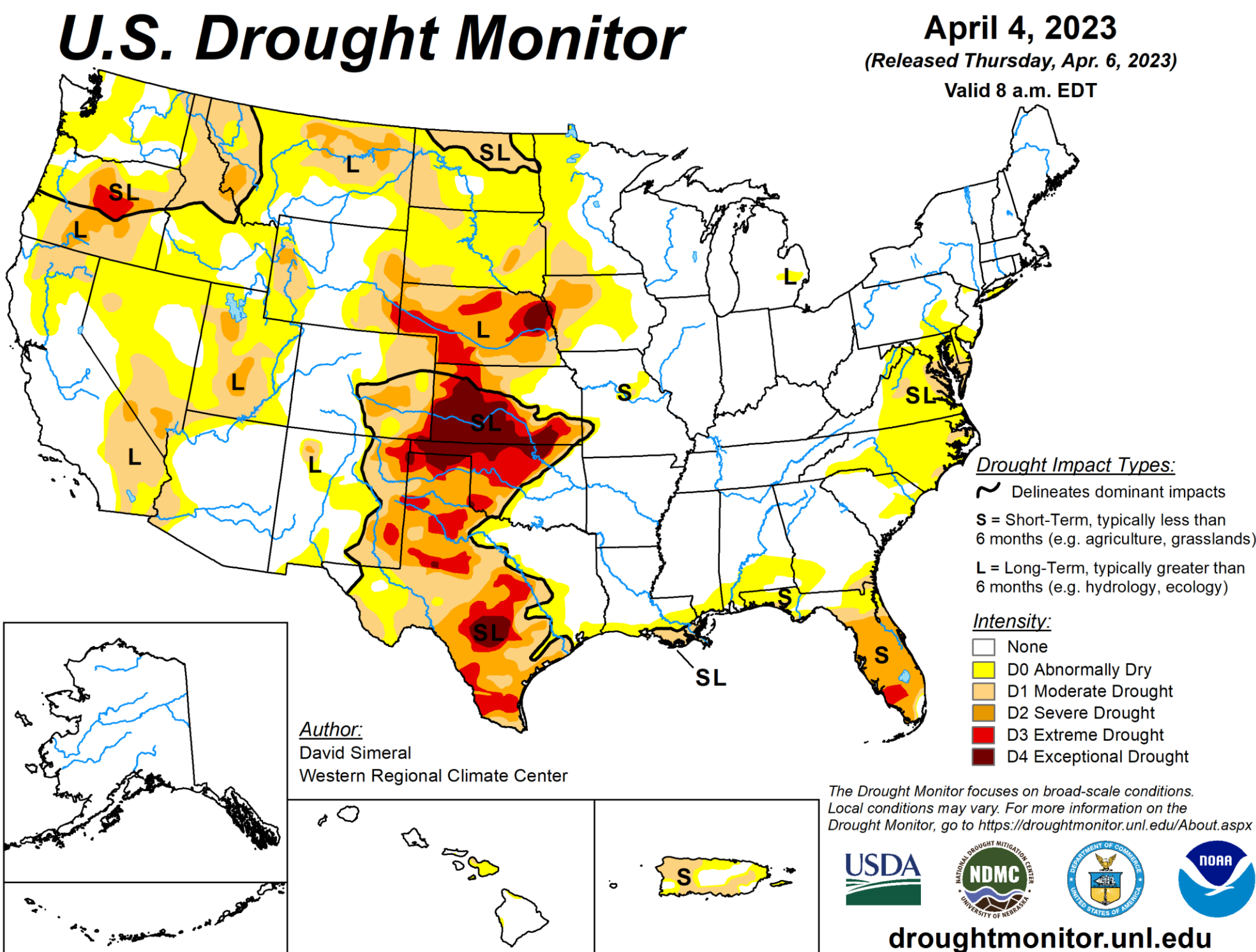
- Consecutive years of La Nina dampened yields
- Near-term climate forecast more favorable for production



FAST FACT:

Globally farmers harvested an area nearly twice the size of India in the '21-'22 crop year

MARKET OUTLOOK



Source: NOAA

US Drought Lingerin in Key Production Areas

Most immediate impact on US Winter Wheat Crop – 48% of production areas experiencing drought

Corn areas experiencing drought 29%

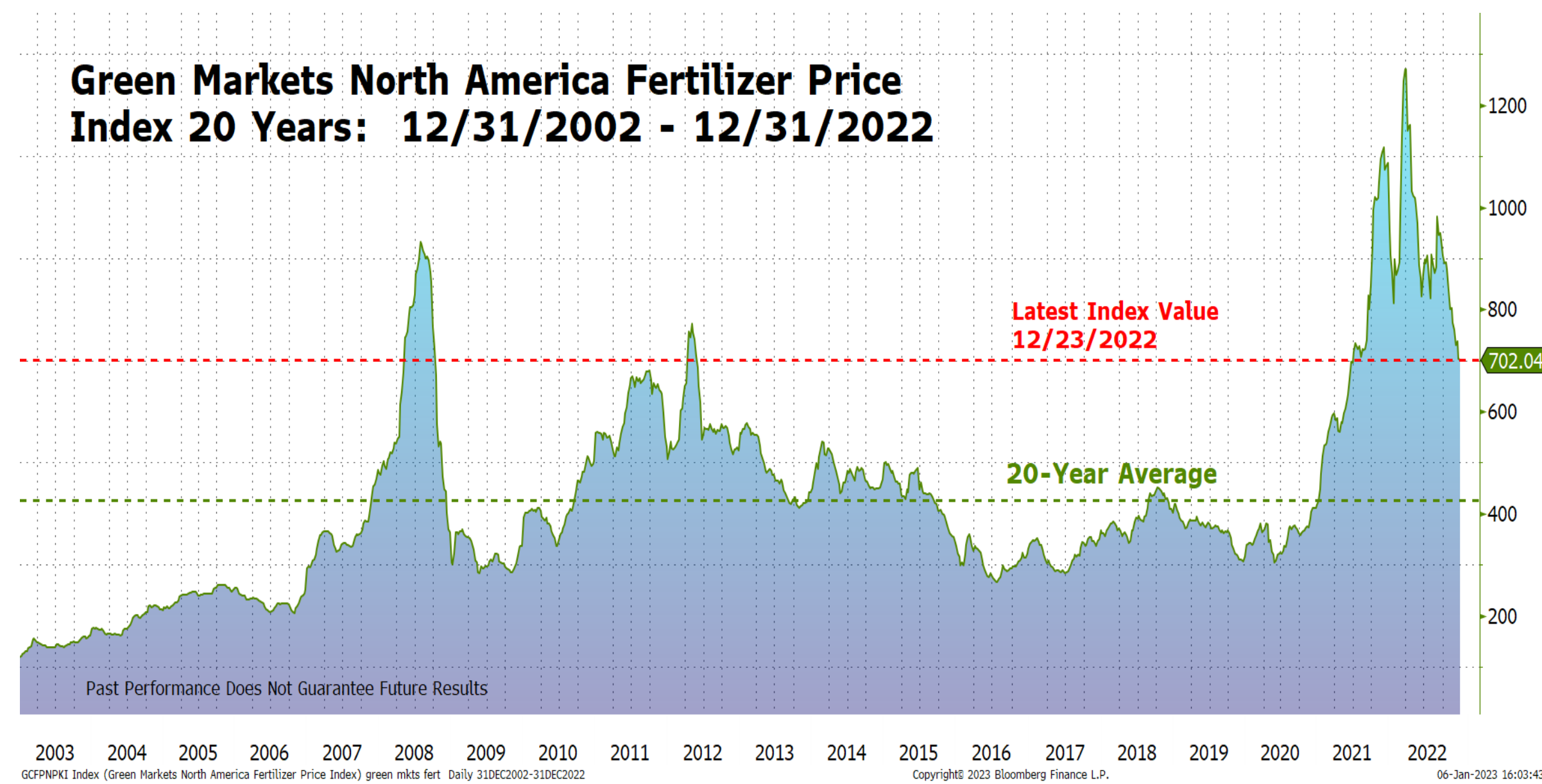
Soybean areas experiencing drought 20%

MARKET OUTLOOK

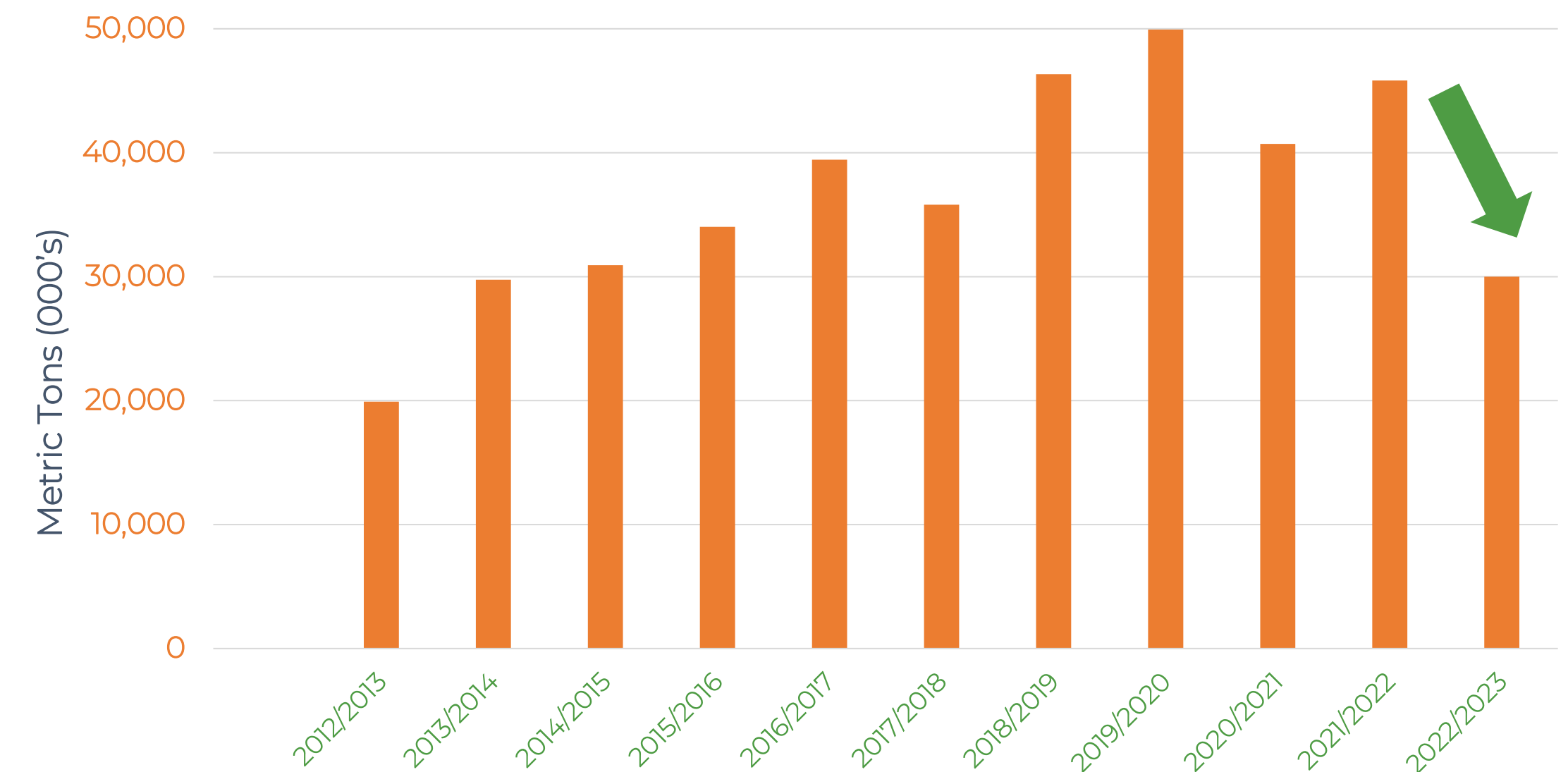
Persistent Challenges

- Elevated input costs...fertilizer prices 64% higher vs. 20-yr avg
- Ongoing availability concerns given war in Ukraine and heightened geopolitical tensions

Green Markets North America Fertilizer Price Index 20 Years: 12/31/2002 - 12/31/2022



Ukraine: Combined Corn & Wheat Exports



FAST FACT:

Prior to the Russian invasion, Ukraine accounted for nearly 10% of global wheat exports and more than 13% of global corn exports

Combined exports have dropped by **35%** since the shooting began

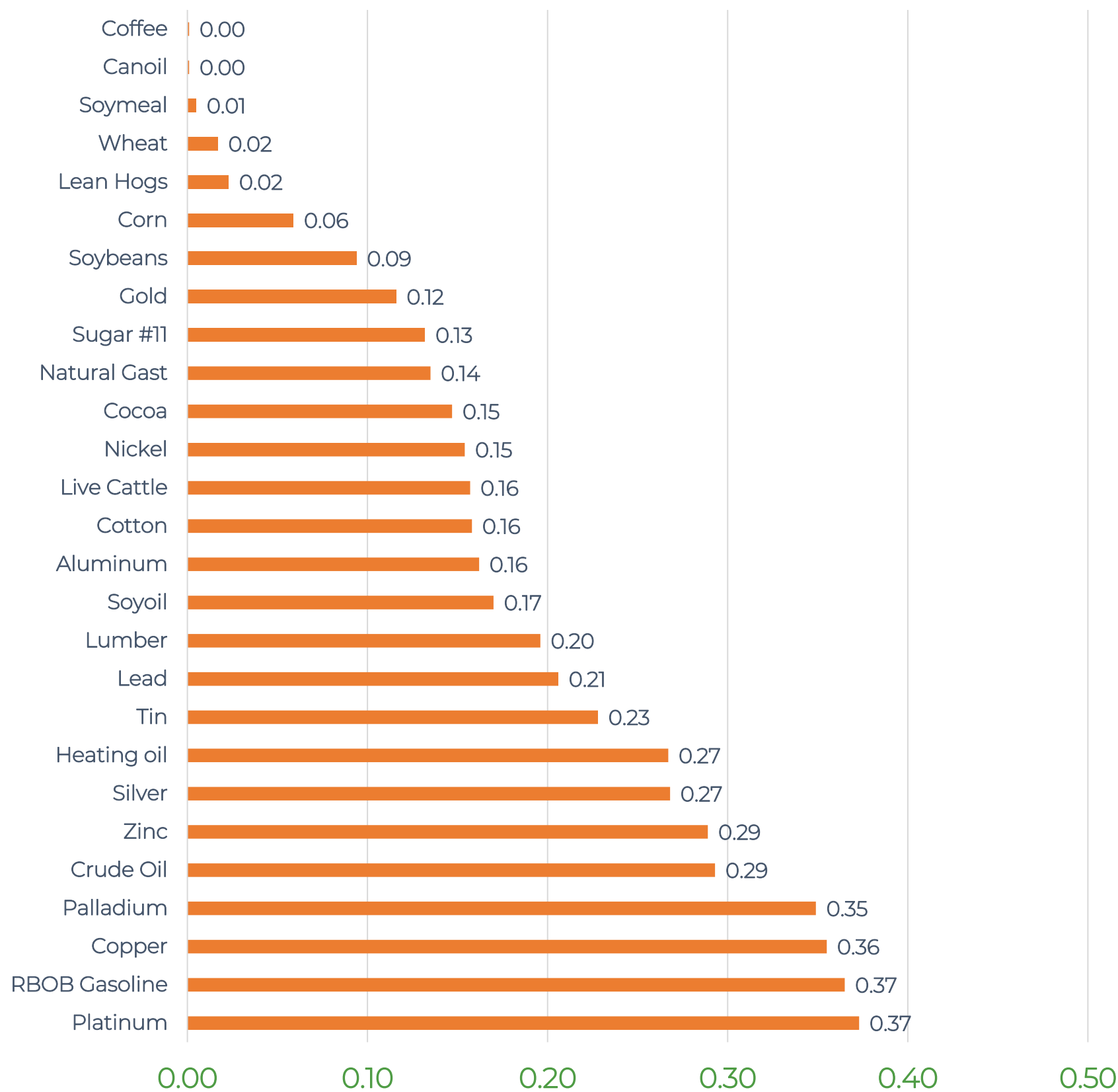


PORTFOLIO CONSIDERATIONS



PORTFOLIO CONSIDERATIONS

Commodity Correlations to S&P 500 Index
2012-2022*



Source: Bloomberg Finance LP and Yardeni Research

Performance During Corrections and Bear Markets

Date	Teucrium	S&P 500	Agricultural Fund Index vs S&P 500
	Agricultural Fund Index	Total Return	Relative Performance
02/19/2020 - 03/23/2020	-10.90%	-33.79%	22.89%
09/20/2018 - 12/24/2018	2.60%	-18.68%	21.28%
01/26/2018 - 02/08/2018	1.40%	-10.10%	11.50%
11/03/2015 - 02/11/2016	-6.06%	-11.26%	5.20%
05/21/2015 - 08/26/2015	-9.22%	-8.45%	-0.77%

Portfolio Considerations

- ▣ Agricultural commodities historically have low correlations to stocks
- ▣ The Teucrium Agricultural Fund Index has outperformed the S&P 500 Total Return Index in 4 out of the past 5 stock market corrections of 10% +



FAST FACT:

The S&P GSCI and the Bloomberg Commodity Index (BCOM) remain heavily allocated to energy with weightings of

53.47%

and **29.95%**
respectively

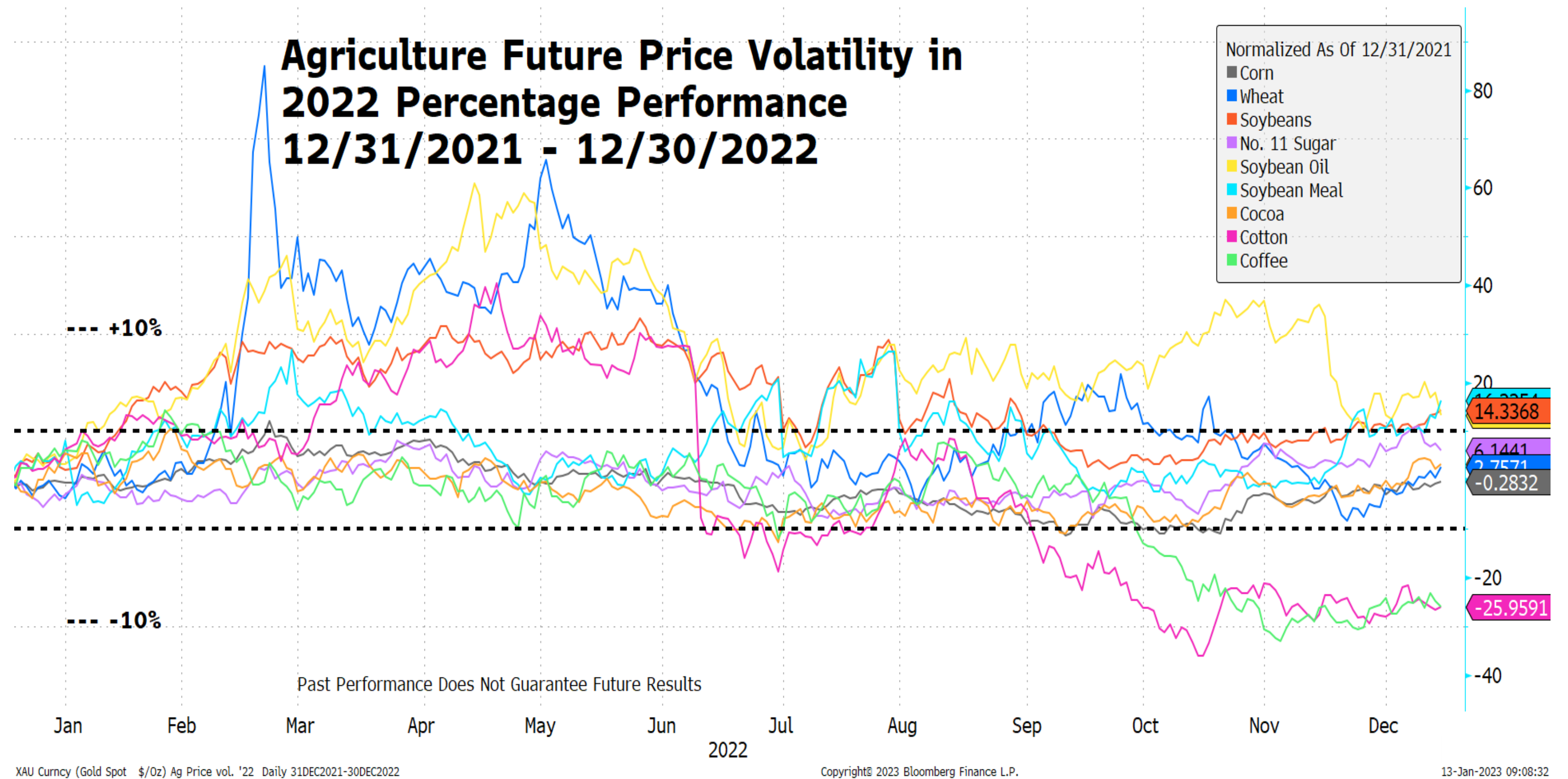
PORTFOLIO CONSIDERATIONS

Volatility Presents a Challenge and an Opportunity



FAST FACT:

All 9 of the grain and soft commodity futures that we track experienced double-digit gains and/or losses at some point over the course of 2022



Source: Bloomberg Finance L.P.

PORTFOLIO CONSIDERATIONS

VOLATILITY
becomes
OPPORTUNITY



Teucrium AiLA Long-Short Agriculture Strategy ETF Performance *as of 3/31/2023*

	Three Month	Year to Date	3 Year Annualized	5 Year Annualized	Inception Annualized
<u>NAV</u>	-6.29%	-6.29%	-	-	-6.21%
<u>Price</u>	-6.71%	-6.71%	-	-	-6.38%
<u>AiLA-S033 Index***</u>	-6.79%	-6.79%	14.35%	15.47%	-6.79%
<u>TTAGS Index***</u>	-0.97%	-0.97%	22.44%	7.16%	-3.62%
<u>BCOM Index***</u>	-6.47%	-6.47%	19.48%	3.82%	-6.79%

AN INVESTMENT CAN NOT BE MADE DIRECTLY INTO AN INDEX.

Source: Teucrium

About AiLA

AiLA, a leading provider of alternative alpha strategies in the commodities sector

AiLA’s indexes offer a systematic approach, utilizing proprietary **machine-learning technology** with the goal of turning data into alpha

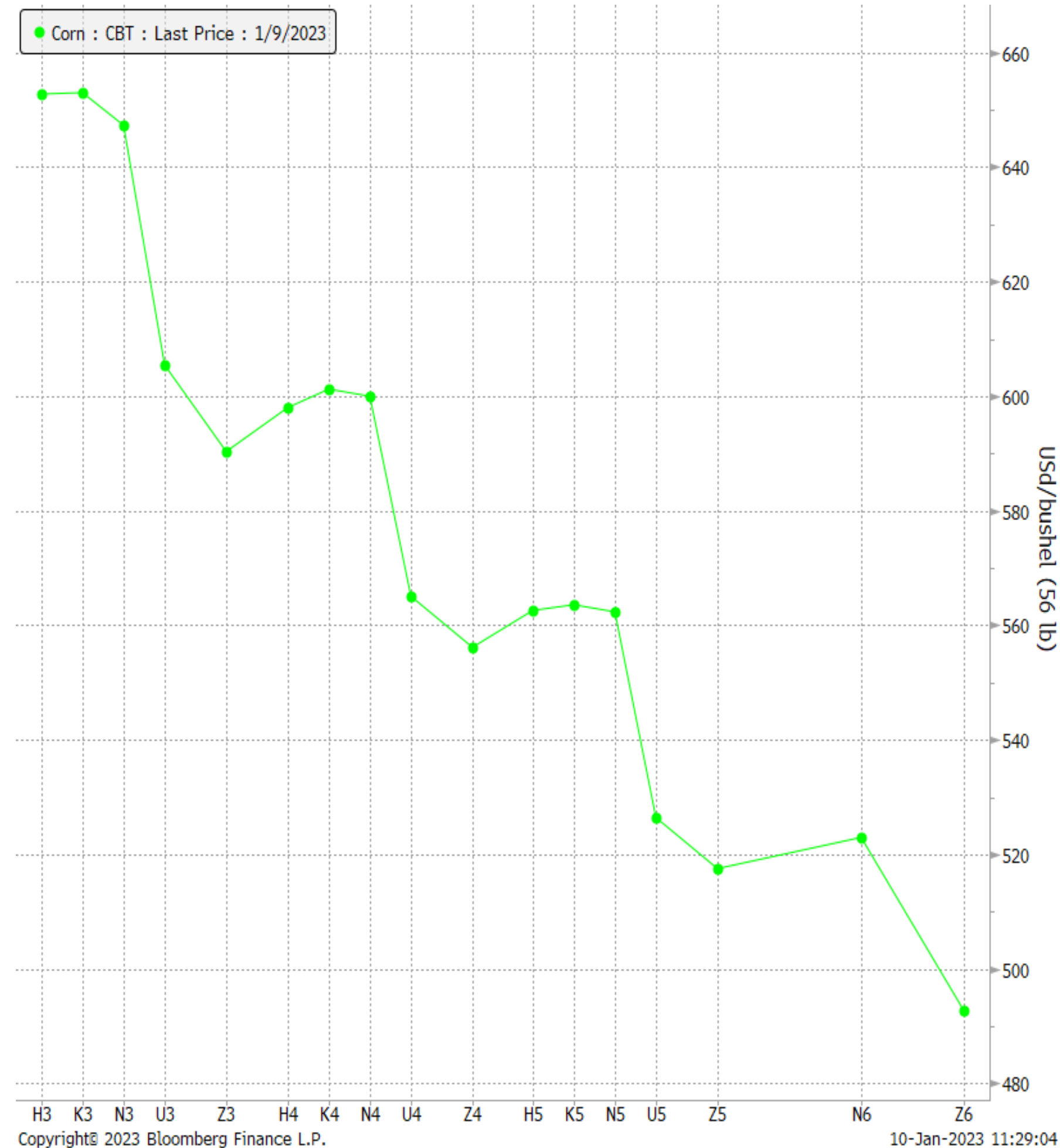
Profit Potential Regardless of the Market Trend

- ▣ A long-short ETF for agriculture
- ▣ A quantitative, multi-factor, rules-based strategy
- ▣ Driven by Machine Learning technology
- ▣ Daily trade signal evaluation

PORTFOLIO CONSIDERATIONS

Structure Matters

- Passive futures-based strategies are at the mercy of the commodity curve
- Contango can lead to negative roll-yield
- Backwardation can lead to positive roll-yield



Source: Bloomberg Finance L.P.

Fund Holdings

CBOT Com Futures
Contracts



FAST FACT:

Teucrium's passive ETFs follow proprietary benchmarks designed to help mitigate the negative impacts of contango by holding multiple contracts across the curve

PORTFOLIO CONSIDERATIONS

Diversified and Single Agricultural Commodity Strategies



TILL

Teucrium Agricultural
Strategy No K-1 ETF



SOYB

Teucrium Soybean ETF



CORN

Teucrium Corn ETF



WEAT

Teucrium Wheat ETF



TAGS

Teucrium Agricultural ETF



CANE

Teucrium Sugar ETF



FAST FACT:

The Teucrium AiLA Long-Short Agricultural Strategy ETF is our newest fund and our only agriculture strategy that can go both long & short ag futures



OAIA

Teucrium AiLA Long-Short Agriculture Strategy ETF



APPENDIX:



Appendix:

Front Month Futures Index	Bloomberg Code
NY Harbor ULSD	H01 Comdty
LME Nickel	LN1 Comdty
Natural Gas	NG1 Comdty
Soybean Meal	SM1 Comdty
Corn	C 1 Comdty
Soybeans	S 1 Comdty
Soybean Oil	B01 Comdty
Platinum	PL1 Comdty
Brent Crude	CO1 Comdty
M WTI Crude	CL1 Comdty
Sugar	SB1 Comdty
Cocoa	CC1 Comdty
Silver	SI1 Comdty
Wheat	W 1 Comdty
Gold	GC1 Corndty
LME Lead	LL1 Comdty
Palladium	PA1 Comdty
Copper	HG1 Comdty
LME Primary Aluminium	LA1 Comdty
LME Zinc	LX1 Comdty
Cotton	CT1 Comdty
Coffee	KC1 Comdty
LME Tin	LT1 Comdty

*Description and Identification of Commodities Used in Correlation Analysis

Thank You!

Contact Us: www.teucrium.com

Twitter: @TeucriumETFs



TEUCRIUM