2021 Grain Market Outlook

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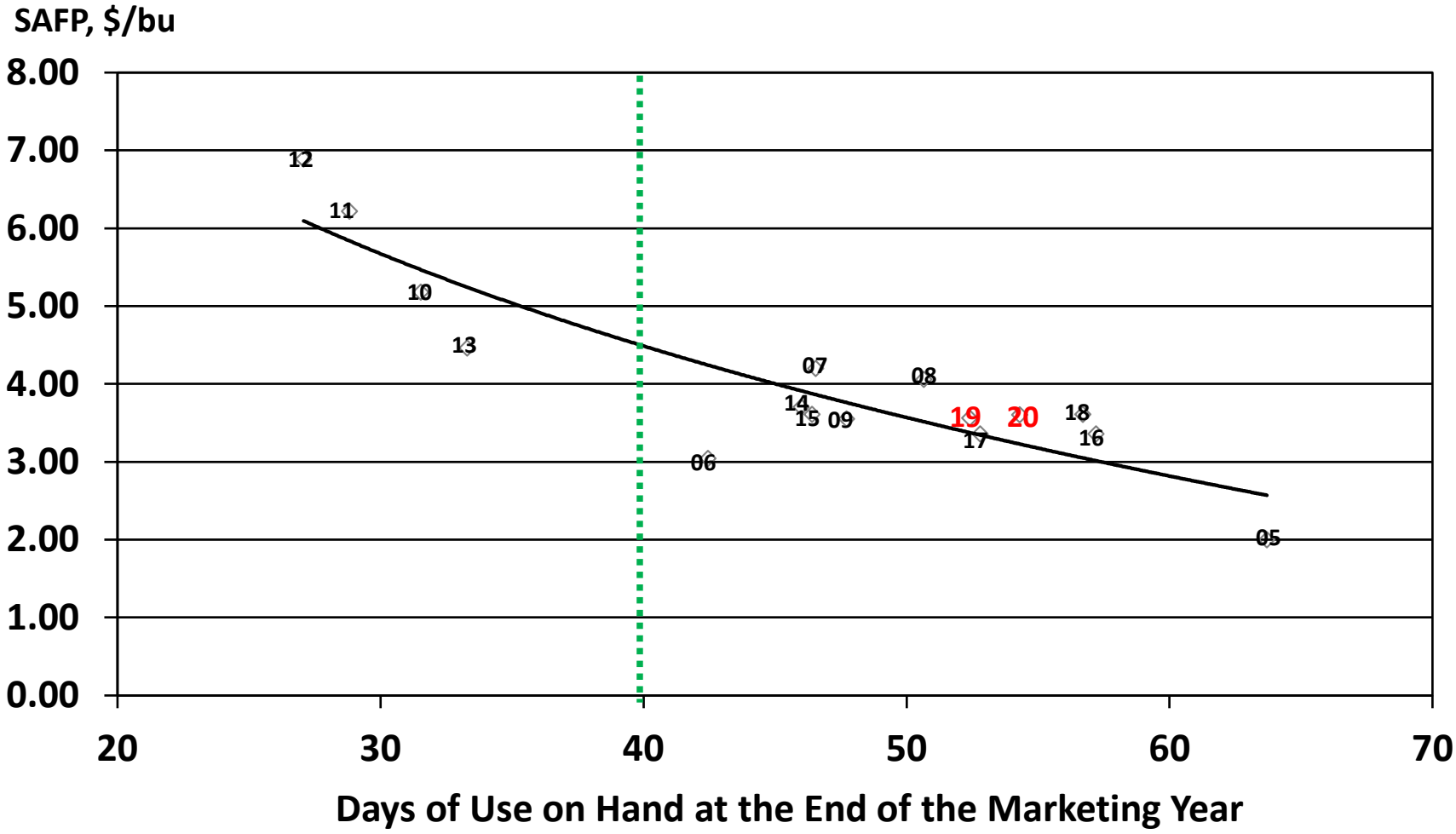
Do Fundaments Matter?

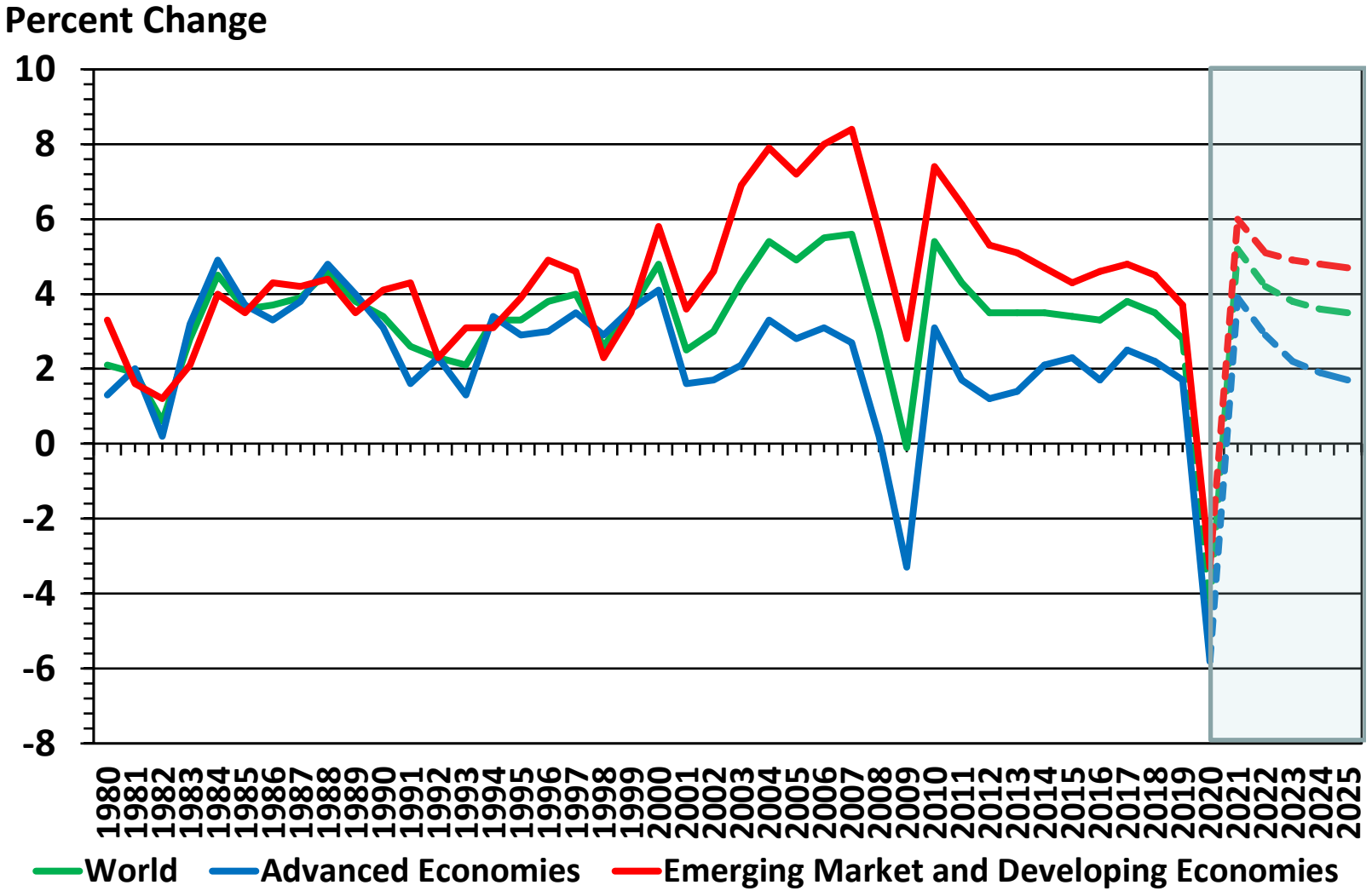
U.S. Corn Average Farm Price and Days of Use on Hand
2005/06-2018/19, 2019/20 estimate, 2020/21 projection



Source: USDA, WASDE, 10/09/2020

Global Economic Growth

Real GDP Growth, 1980 - 2025



World Economic, Outlook, October 2020 http://www.imf.org

http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD

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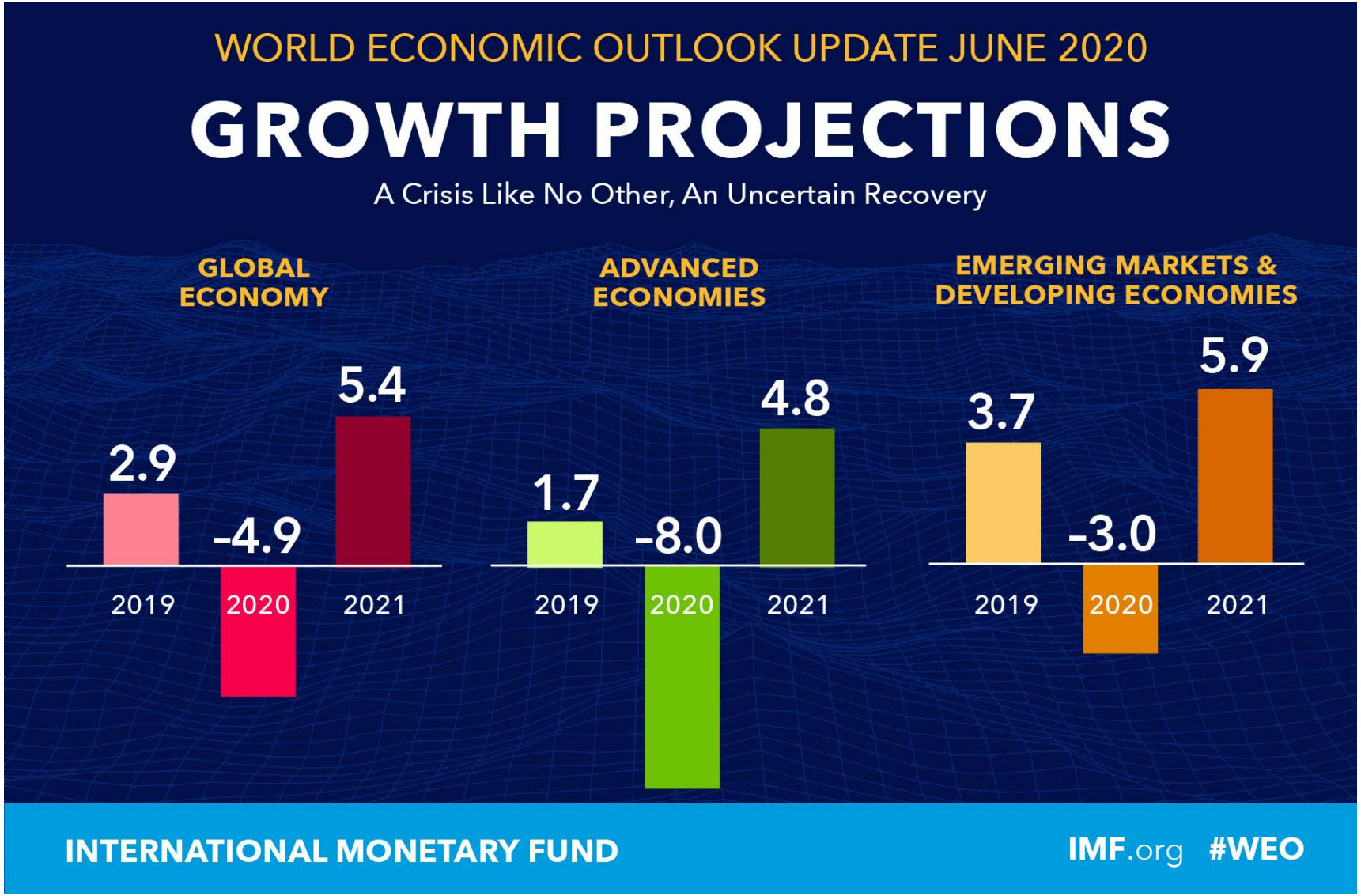
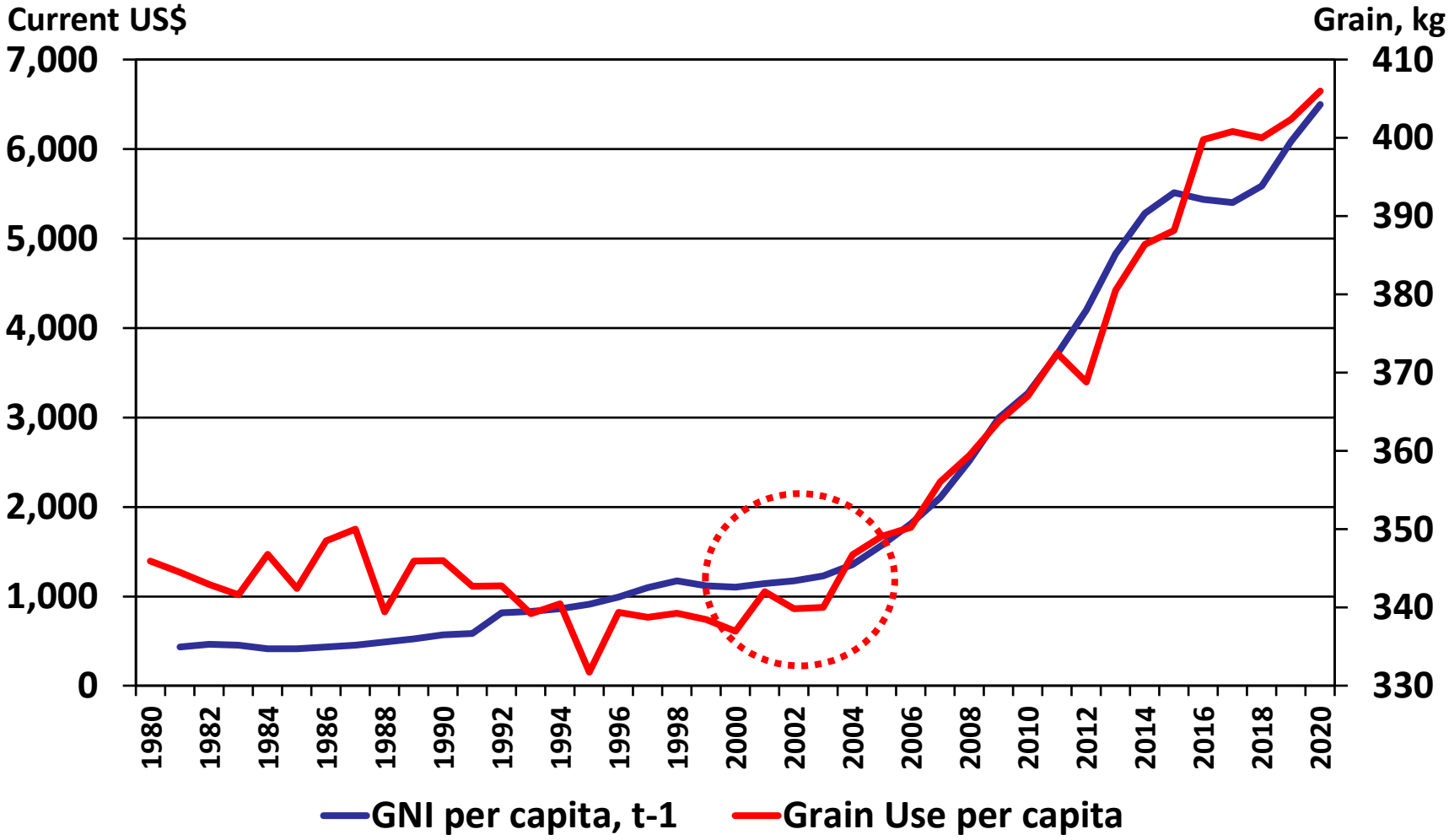


OECD Economic Outlook September 2020:

Country	2019	2020	2021
China	6.1	1.8	8.0
United States	2.2	-3.8	4.0
World	2.6	-4.5	5.0

Emerging Economies Weighted Average Income, t-1, and World Per Capita Grain Consumption Brazil, Russia, India, China, Mexico, Other SE Asia*

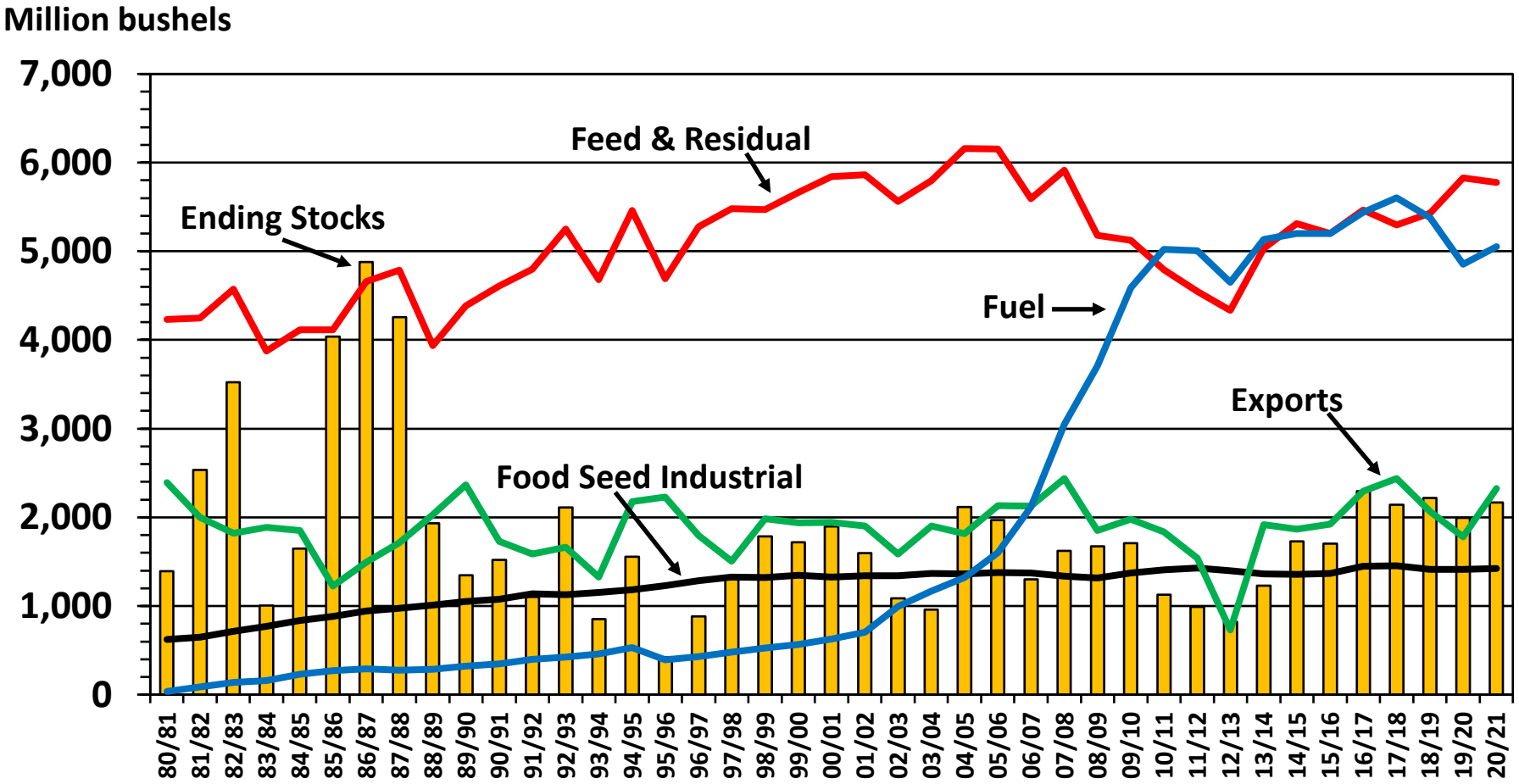


*Other Southeast Asia: Indonesia, Vietnam, Philippines, Thailand, Malaysia

World Bank, GNI per capita, 9/16/2020; Grain Use USDA, FAS, PSD 10/13/2020

http://data.worldbank.org/indicator/

U.S. Corn: Disappearance, 10/09/2020



Source: USDA WASDE

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Annual Energy Outlook 2020

Table: Table 7. Transportation Sector Key Indicators and Delivered Energy Consumption

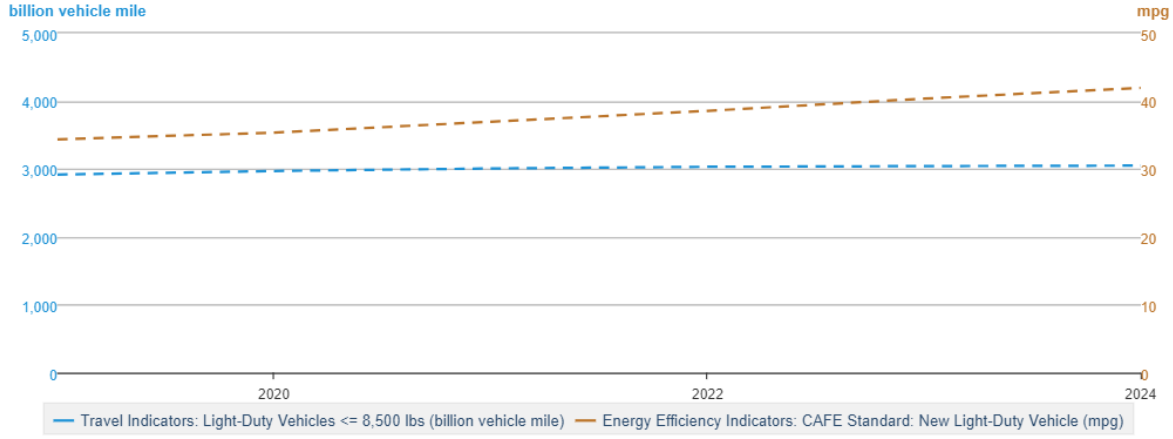
Case: Reference case

PUBLICATIONS & TABLES

Transportation

Case: Reference case

DOWNLOAD



eia Source: U.S. Energy Information Administration

Annual Energy Outlook 2020

Table: Table 36. Transportation Sector Energy Use by Fuel Type Within a Mode

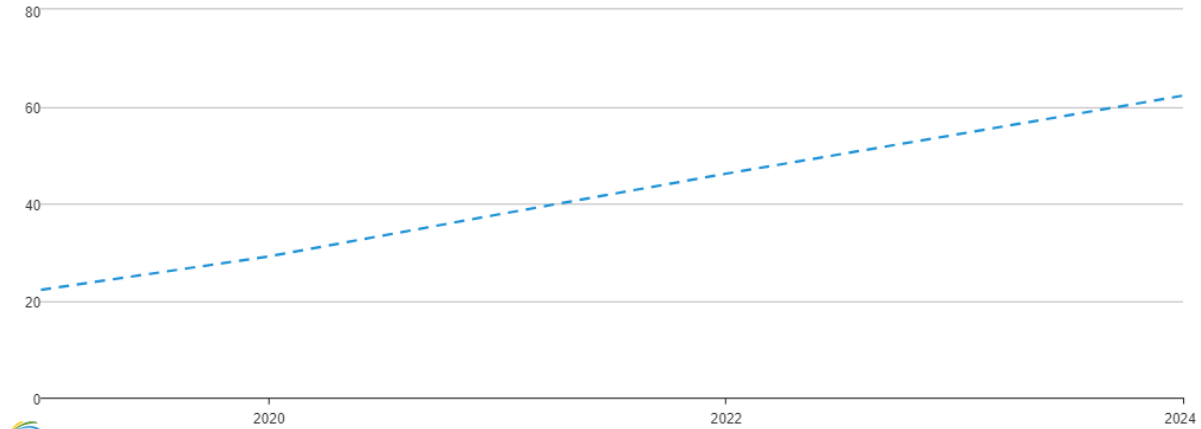
Case: Reference case

PUBLICATIONS & TABLES

Transportation Energy Use: Light-Duty Vehicle: Electricity

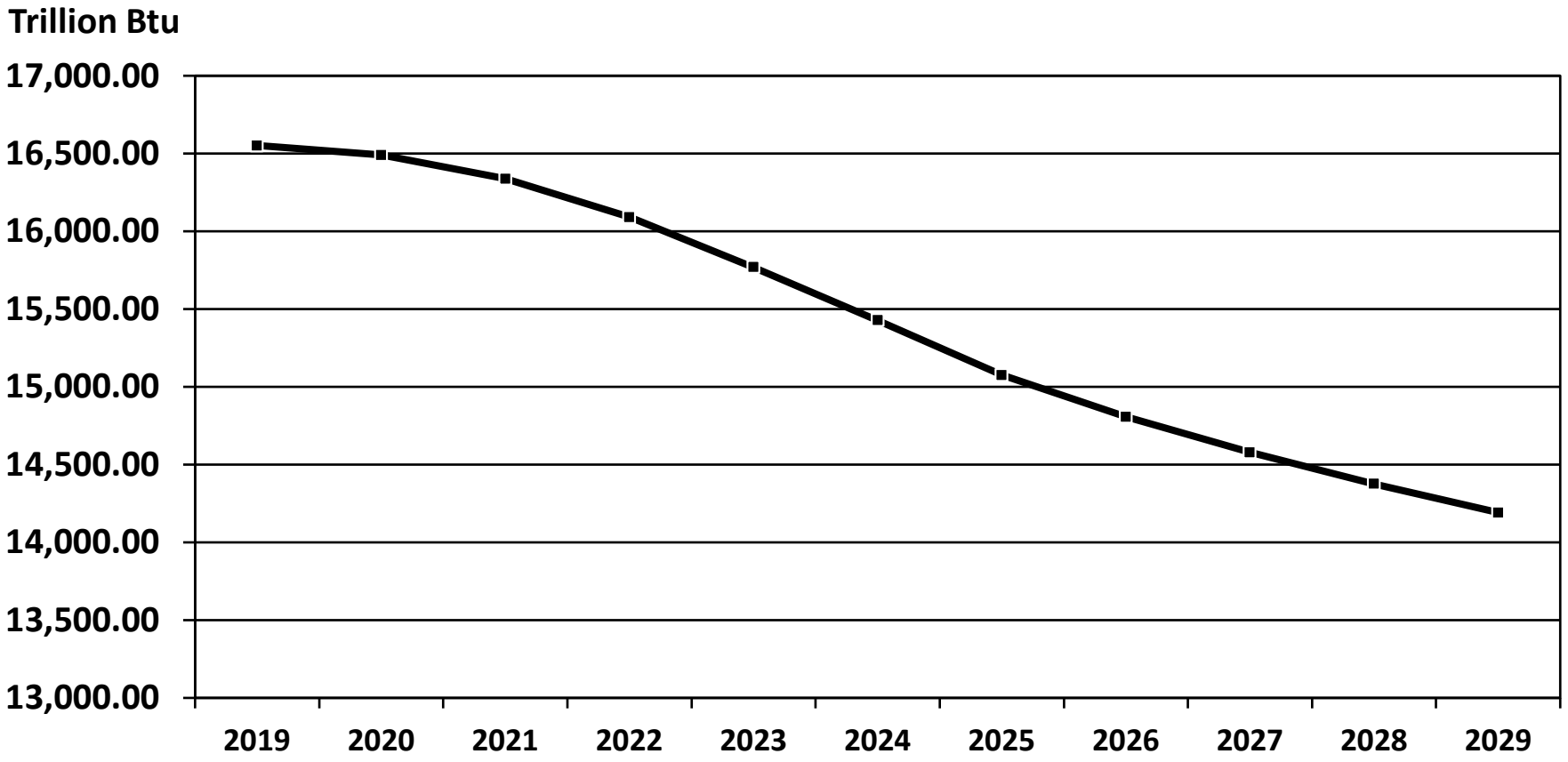
Case: Reference case

DOWNLOAD



eia Source: U.S. Energy Information Administration

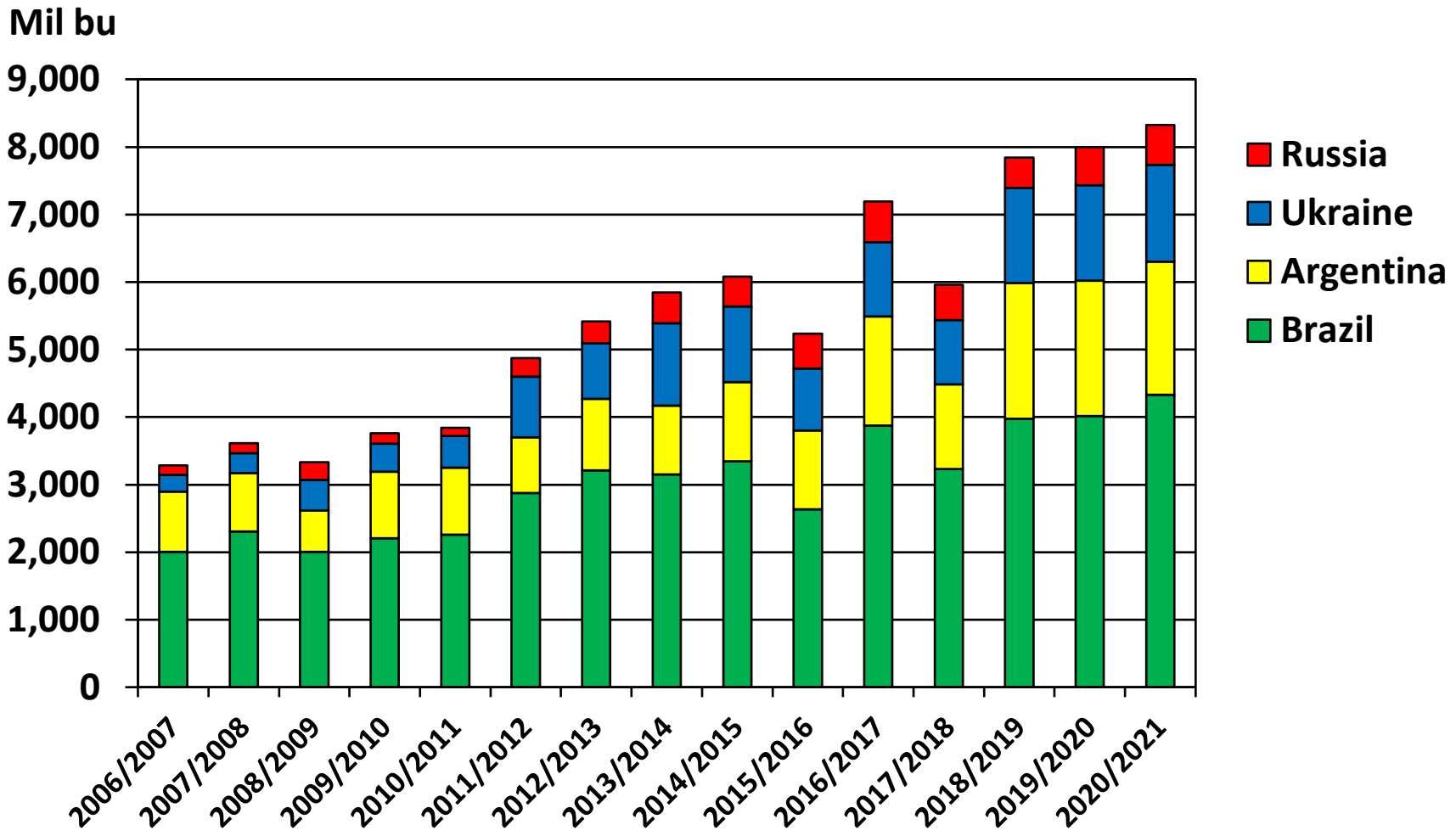
Energy Use: Motor Gasoline



Source: U.S. Energy Information Administration, Annual Energy Outlook 2020, 1/29/2020

Table 35: Transportation Sector Energy Use by Mode and Type

Corn Production: South America and Black Sea



USDA, WASDE, 10/09/2020

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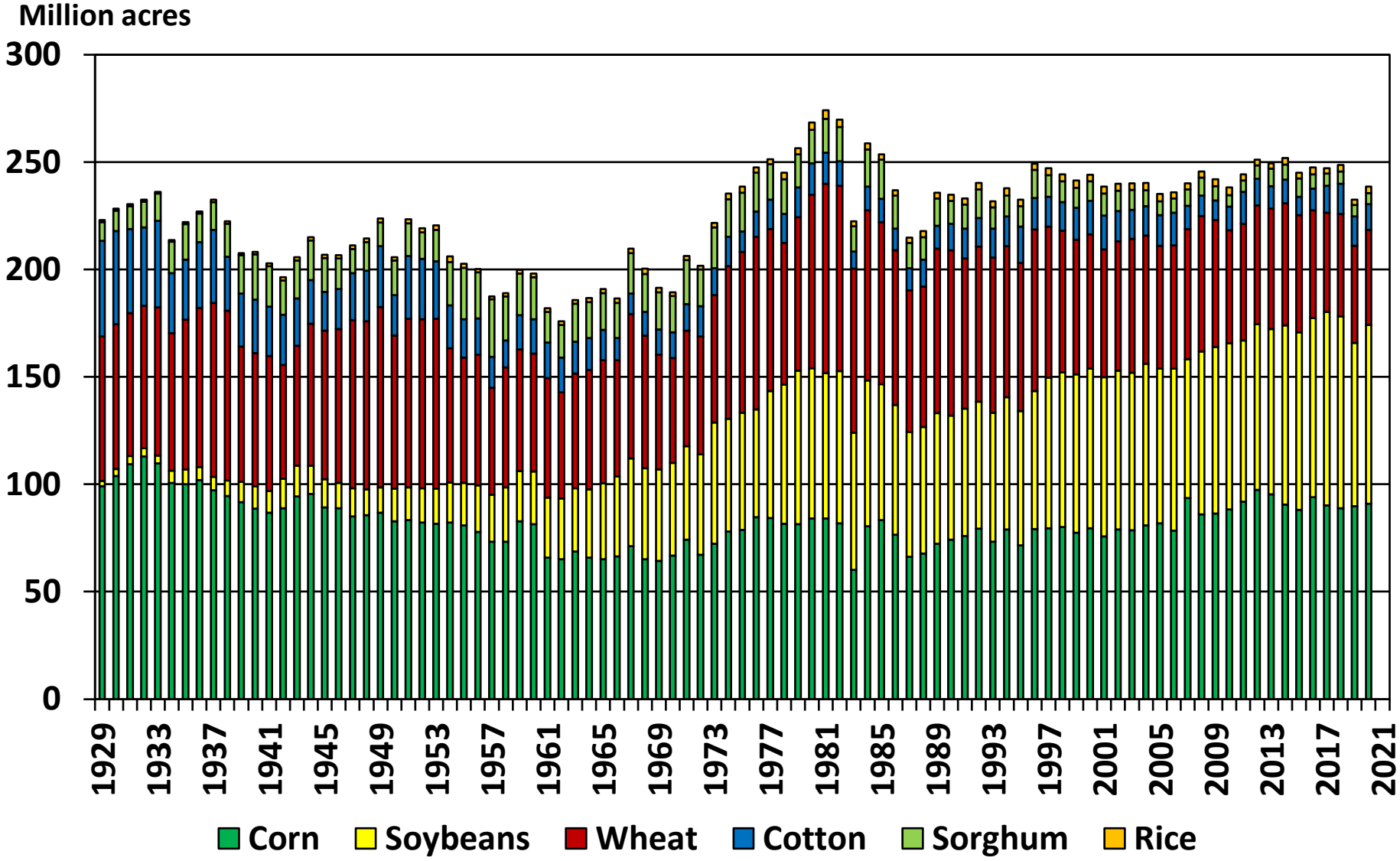
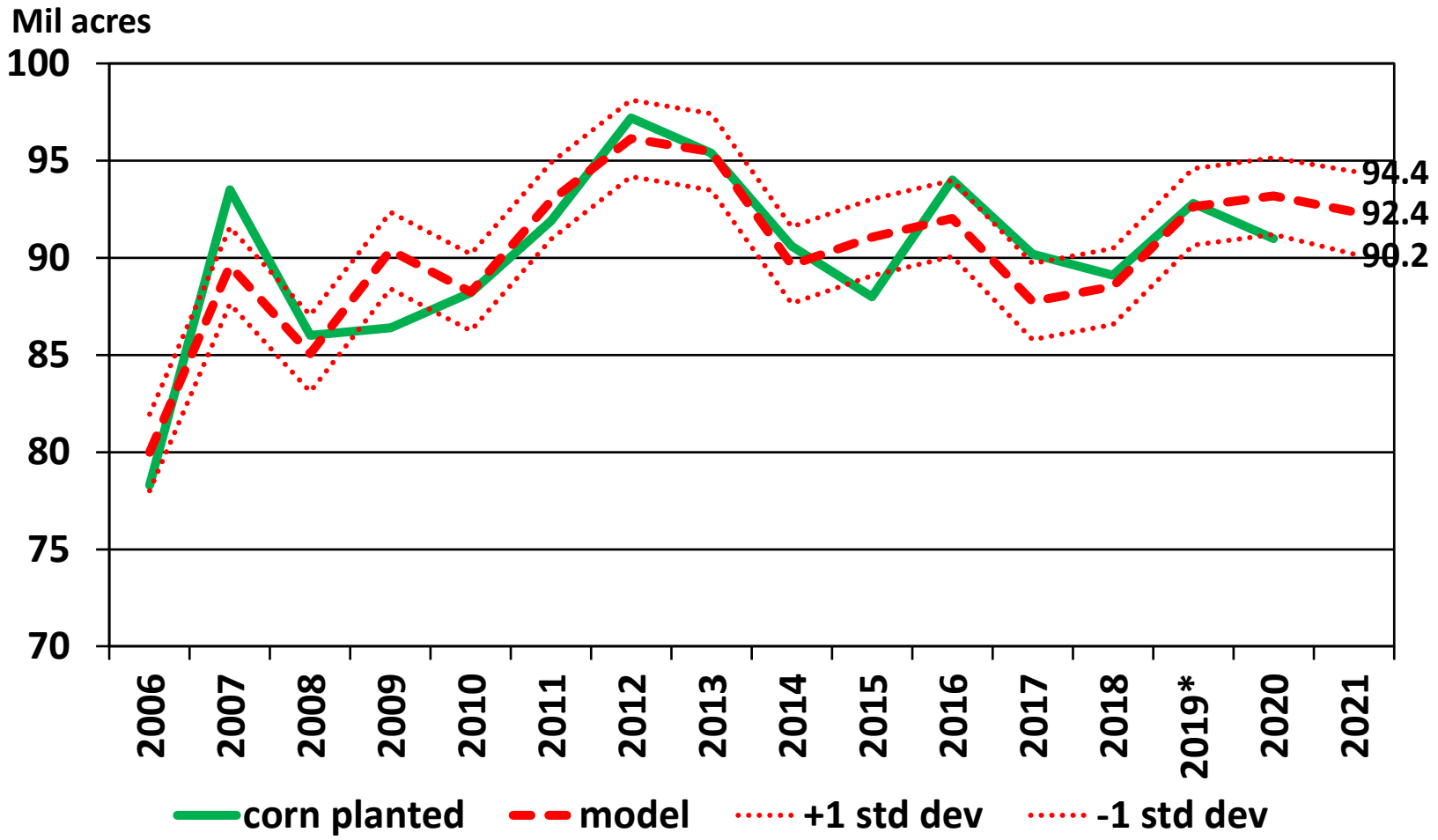
U.S. Planted Acres, 2020: 238 million, 10-yr avg: 246



USDA, WASDE, October 9, 2020

TEXAS A&M AGRILIFE EXTENSION

U.S. Corn Acres



Corn acres = 114+(2*__safp,t-1__)+(-17*__RMA S:C ratio__)+(11*yield dev. t-1)+(0.7*__trend__)

R^2=0.79

* = planting intentions

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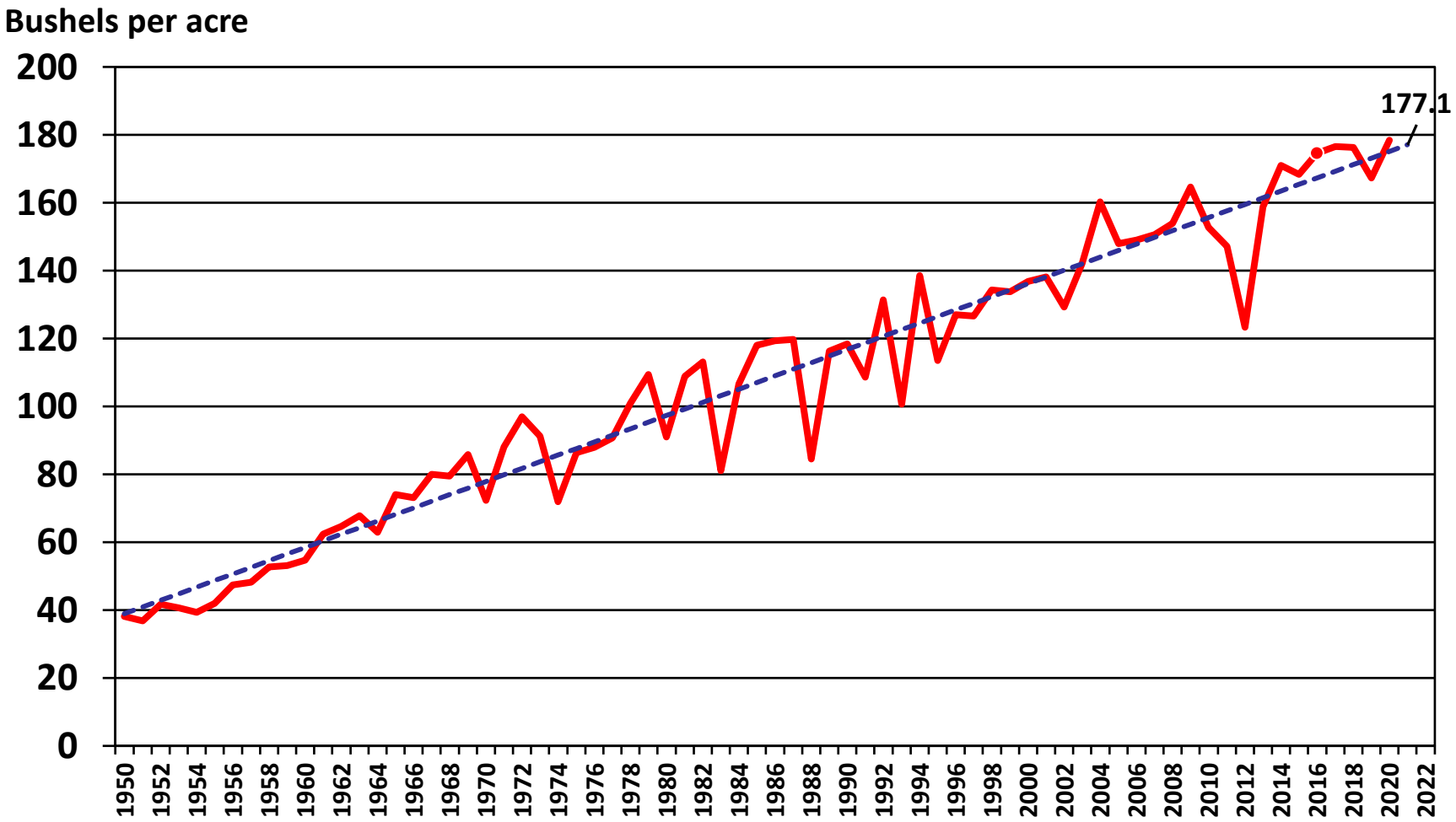
US Average Corn Yield

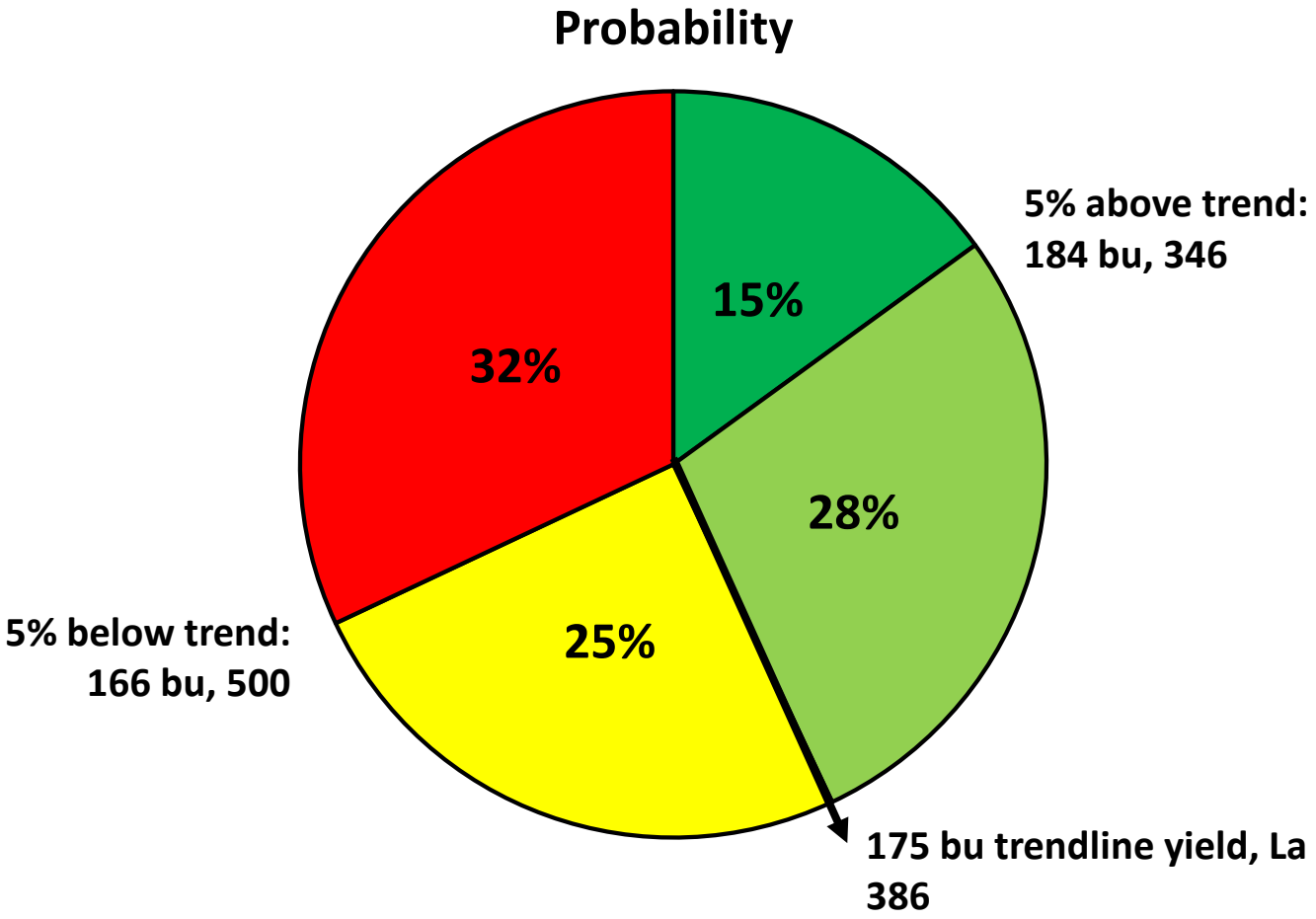
1950-2020 estimate, 2021 projected



USDA, NASS, October WASDE 10/9/2020

TEXAS A&M AGRILIFE EXTENSION

2021 Corn Risk Wheel
La Nina



10/13/2020: 92.4 mil ac planted; 84.3 mil ac harvested; use 14,974 million bushels

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			USDA Final		USDA October	Welch October
			2018/19	2019/20	2020/21	2021/22
AREA						
	Planted	mil acres	88.9	89.7	91.0	92.4
	Harvested	mil acres	81.3	81.3	82.5	84.3
	% harvested		91.5%	90.6%	90.7%	91.2%
YIELD	Harvested acre	bu/ac	176.4	167.5	178.4	175.0
	Beginning stocks	mil bu	2,140	2,221	1,995	2,167
	Production	mil bu	14,340	13,620	14,722	14,747
	Imports	mil bu	28	42	25	25
	Total Supply	mil bu	16,509	15,883	16,742	16,939
DEMAND						
	Feed and residual	mil bu	5,429	5,827	5,775	5,757
	Food, seed, and indu	mil bu	1,415	1,400	1,425	1,425
	Ethanol	mil bu	5,378	4,852	5,050	5,448
	Total Domestic Use	mil bu	12,222	12,109	12,250	12,630
	Exports	mil bu	2,066	1,778	2,325	2,344
	Total Use	mil bu	14,288	13,887	14,575	14,974
	Ending stocks	mil bu	2,221	1,996	2,167	1,965
	Stocks to Use ratio	percent	15.5%	14.4%	14.9%	13.1%
	Days of use on hand		56.7	52.5	54.3	47.9
PRICE	Oct avg of Dec futures		**368**	**390**	**386***	386
	USDA SAFP	$/bu	$ 3.61	$ 3.56	$ 3.60	$ 3.80
	Reference Price	$/bu	$ 3.70	$ 3.70	$ 3.70	$ 3.70
	PLC Payment	$/bu	$ 0.09	$ 0.14	$ 0.10	$ -

U.S. Corn S&D 10/15/2020

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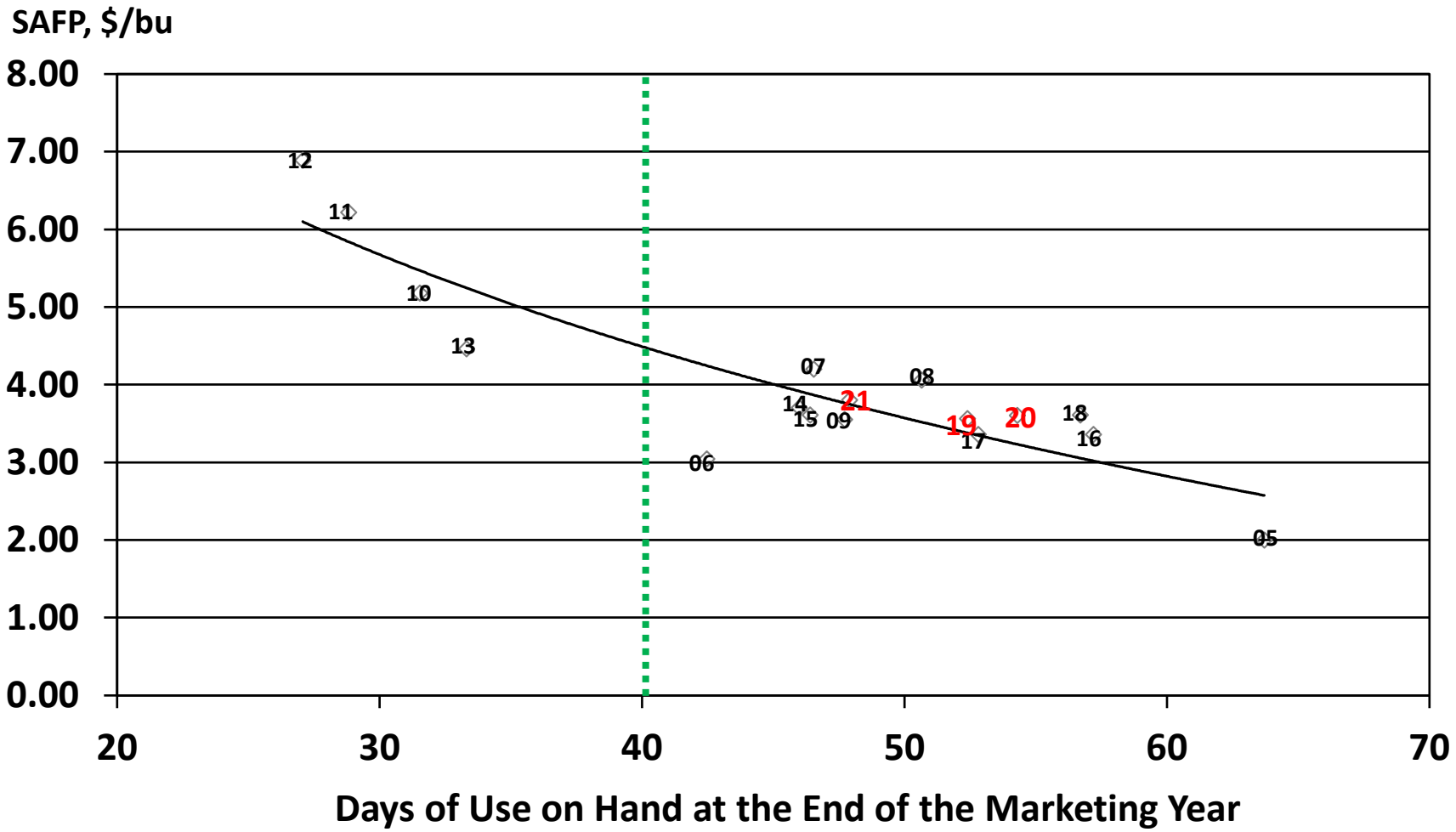
Do Fundaments Matter?

U.S. Corn Average Farm Price and Days of Use on Hand

2005/06-2018/19, 2019/20 estimate, 2020/21 projection, 2021/22 forecast

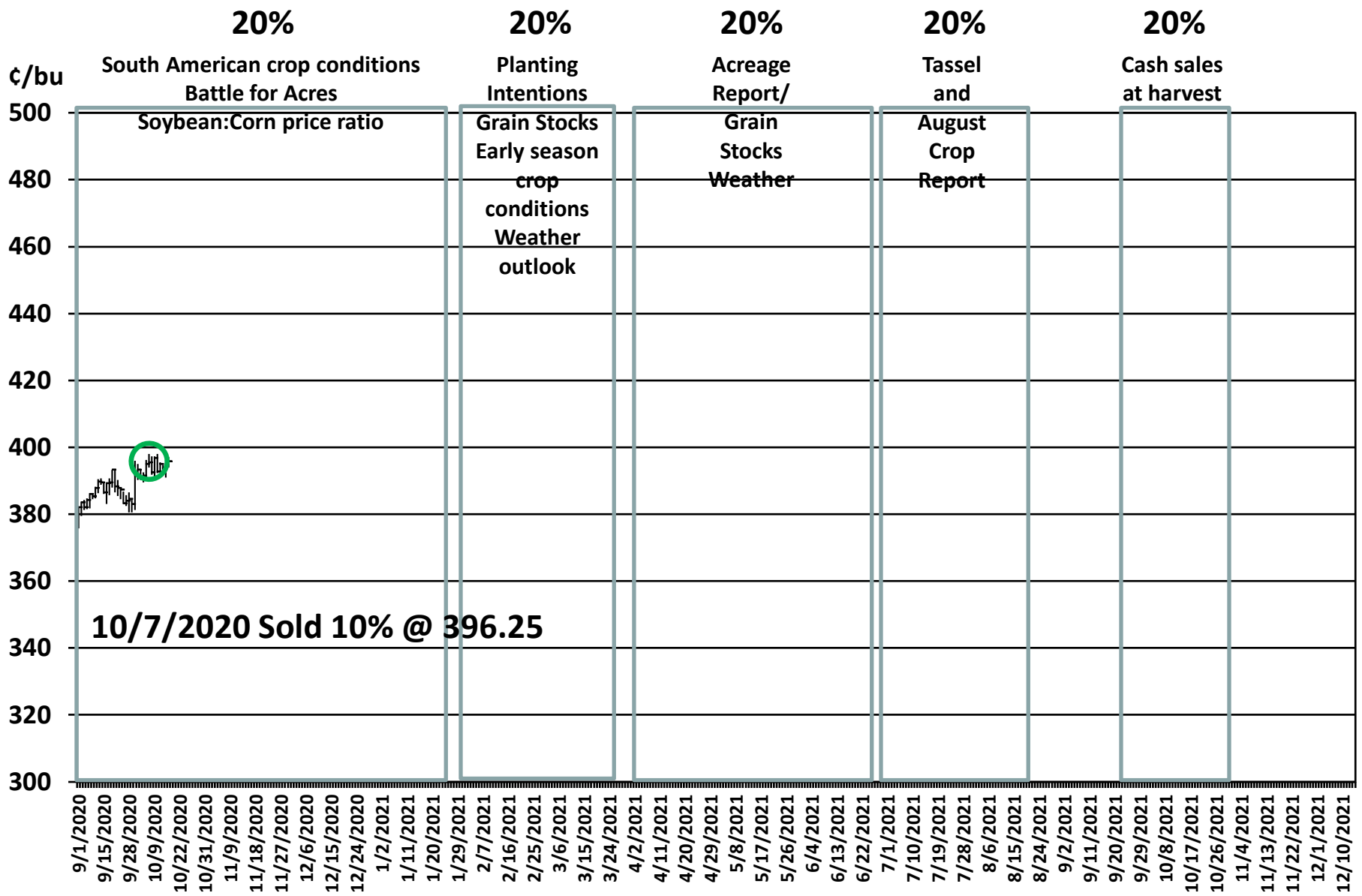


Source: USDA, WASDE, 10/09/2020

Corn Market Factors for 2021

- Increase in corn acres; below trend yield
- Energy feed use steady to lower
- Fuel use increase (but not to previous levels)
- Exports face increasing global competition
- U.S. corn stocks to use lower
- Prices moderately higher
- Global Economy—recession impacts
- Trade—disputes, disruptions, uncertainty
- Weather

December Corn Futures and 2021 Marketing Plan



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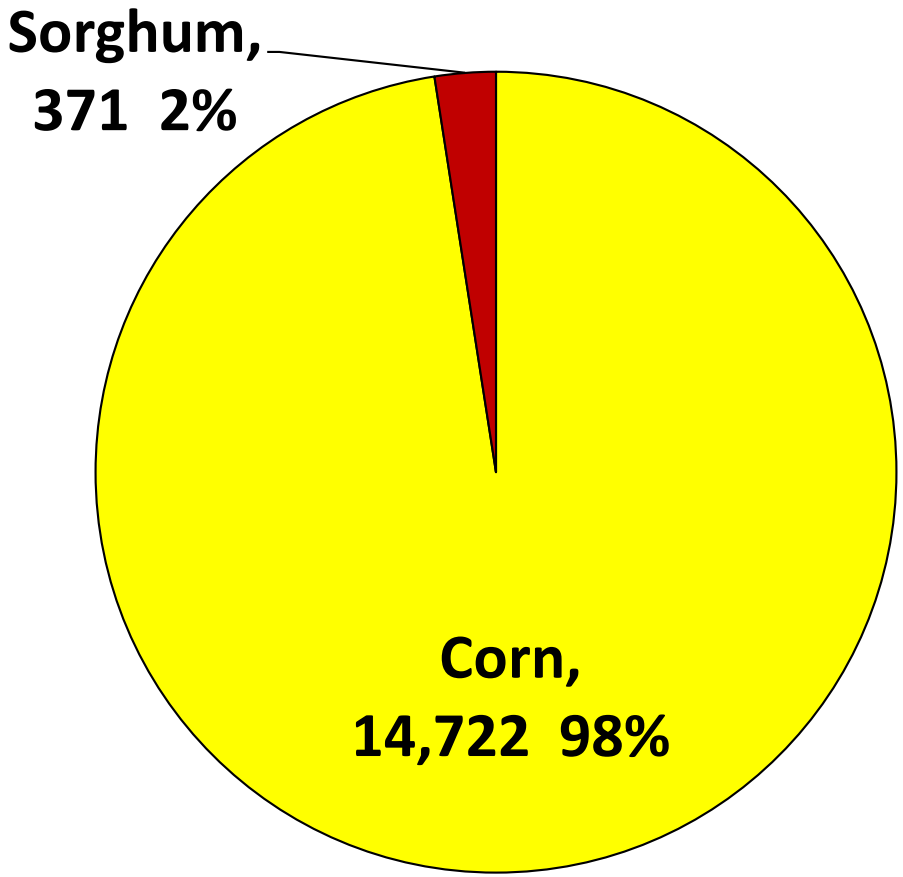
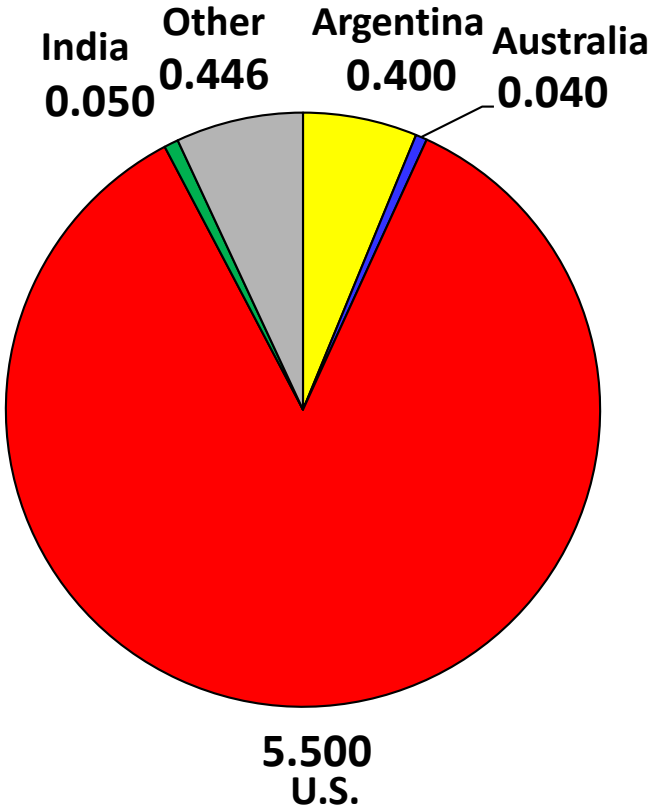
2020 U.S. Feed Grain Production
(million bushels)

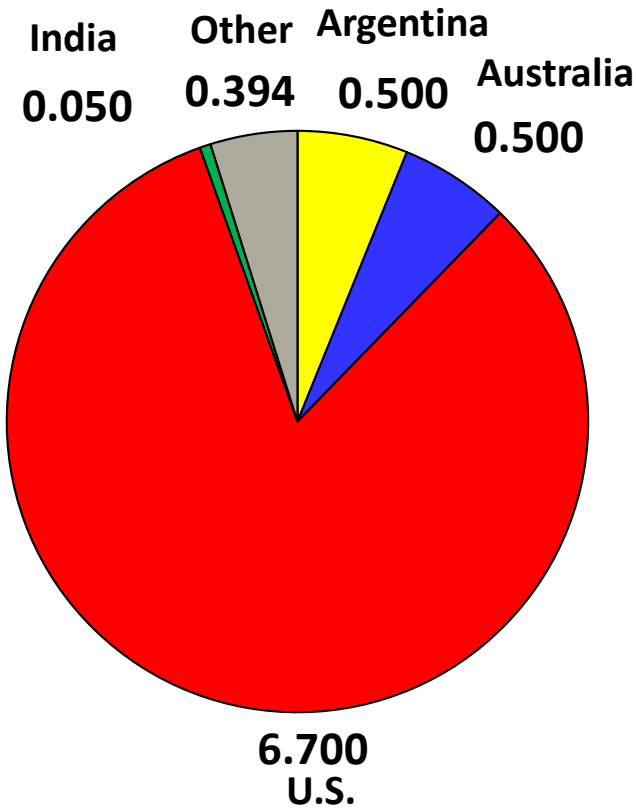


Source: USDA, 10/9/2020

Sorghum: Major Exporters
2019/20 and 2020/21
(million metric tons)



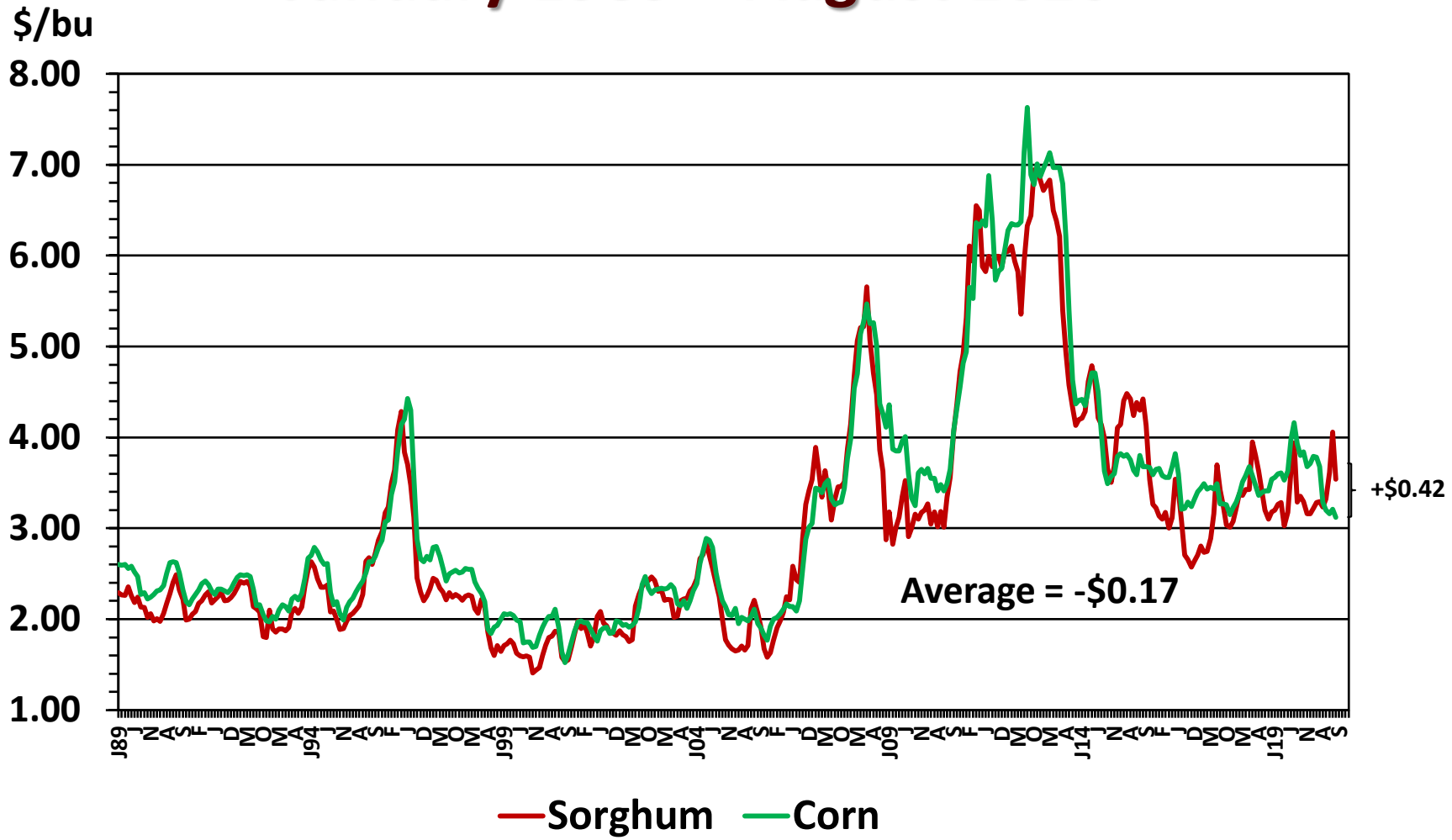
2019/20 (estimated)
Total = 6.436



2020/21 (projected)
Total = 8.144

U.S. Average Prices Received by Farmers for Sorghum and Corn

January 1989 – August 2020



NASS/USDA, Monthly Agricultural Prices

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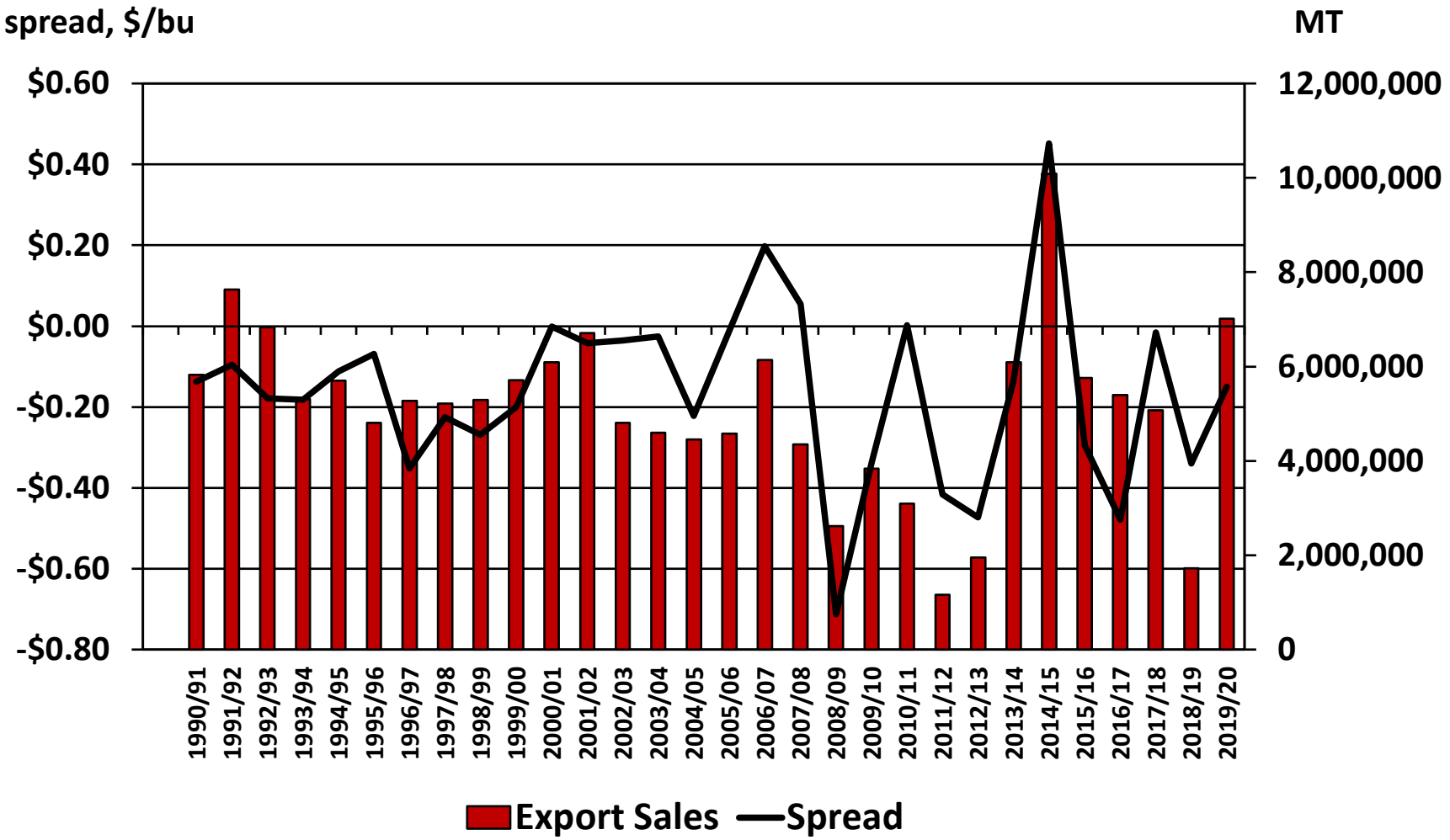
Sorghum—Corn US Spread and Export Sales



USDA, FAS, Export Sales Query, 8/31/2020

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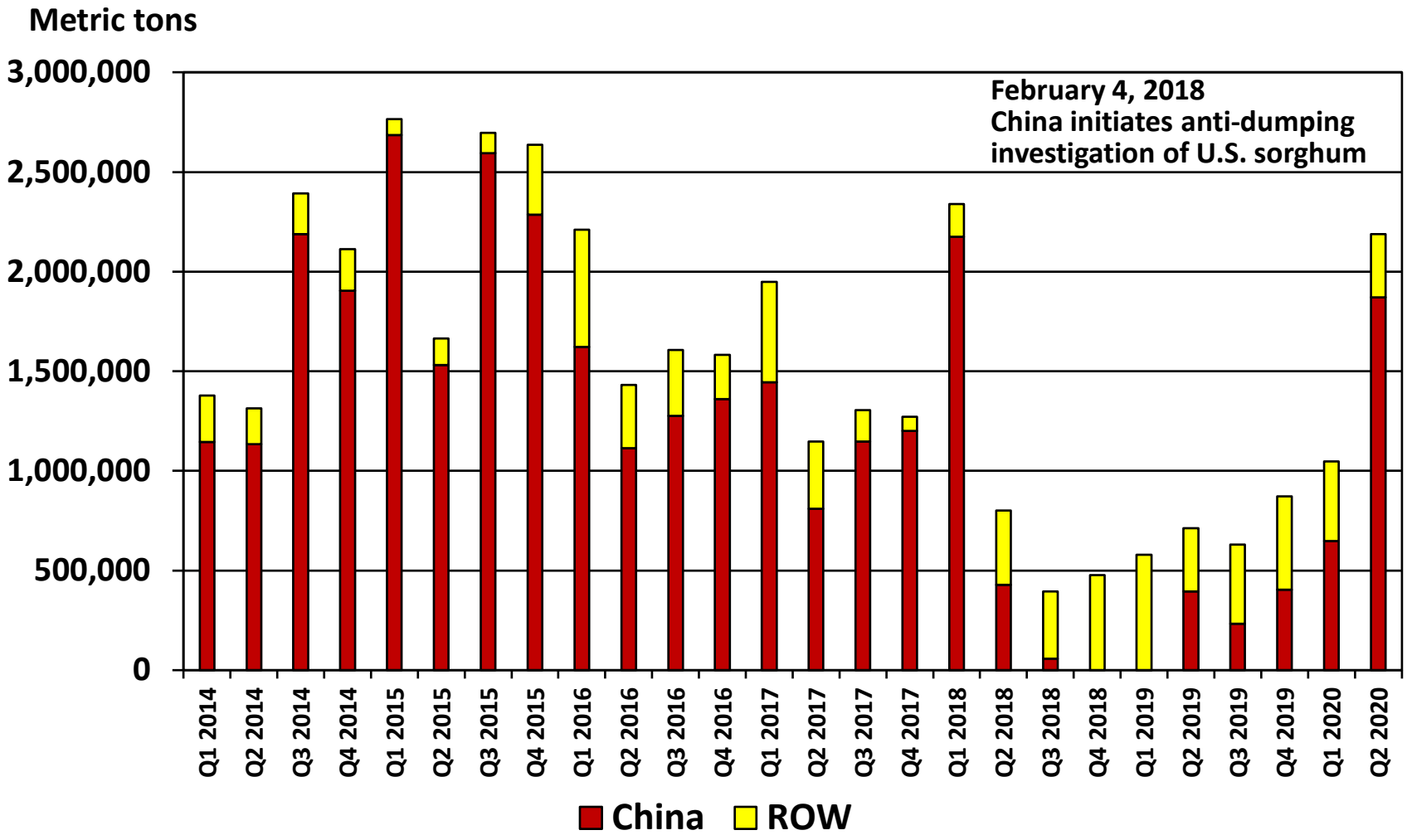
U.S. Quarterly Grain Sorghum Exports



USDA, FAS, GATS 9/21/2020

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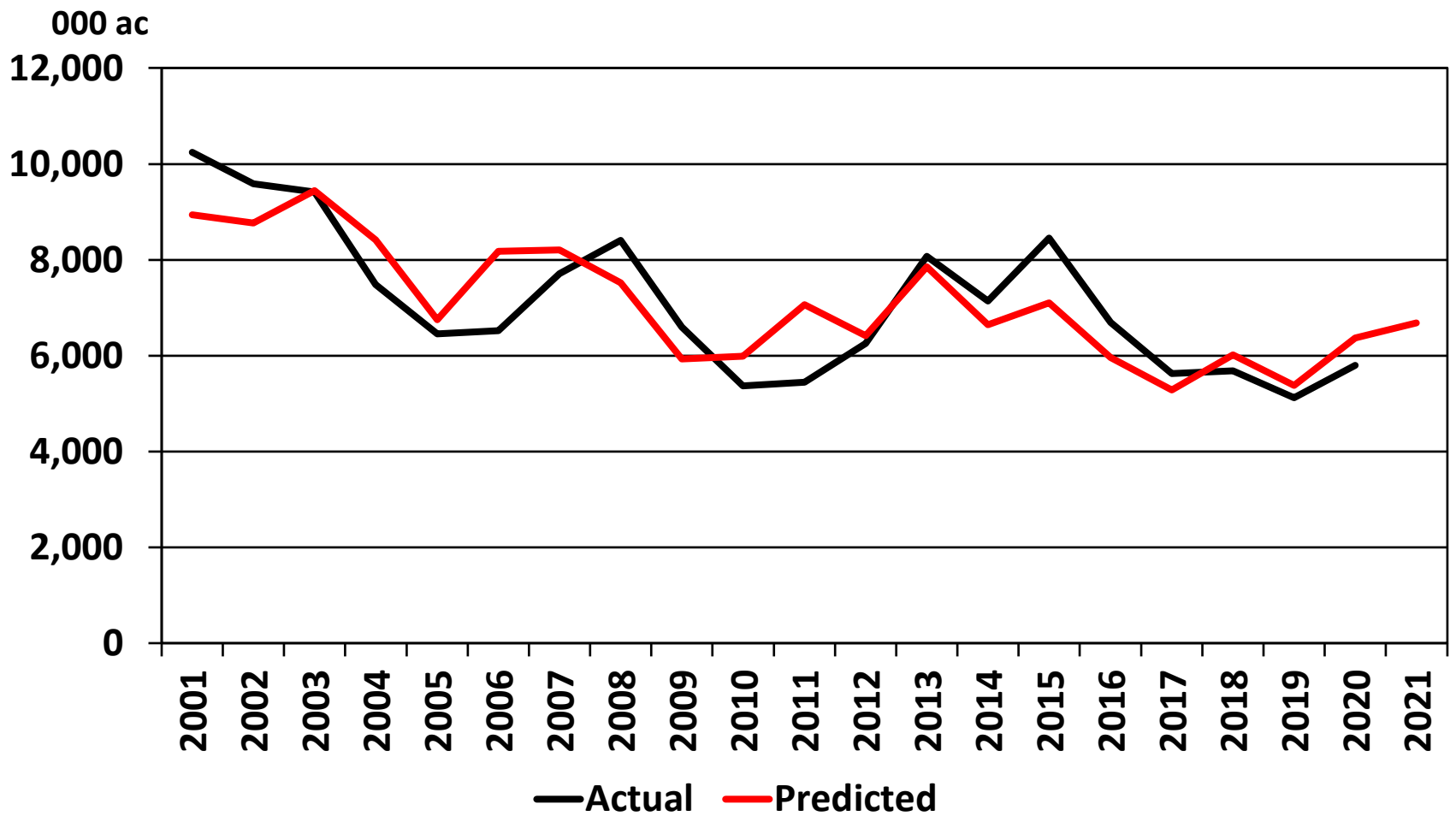
U.S. Sorghum Acres

acres = 9542 + -114 trend + 1839 sor_corn spread, t-1 + -291 corn SAFP, t-1 + -11,481 C yield dev from trend, t-1

Prob(t)	0.000	0.03	0.06	0.283	0.02



USDA, NASS, updated 10/14/2020

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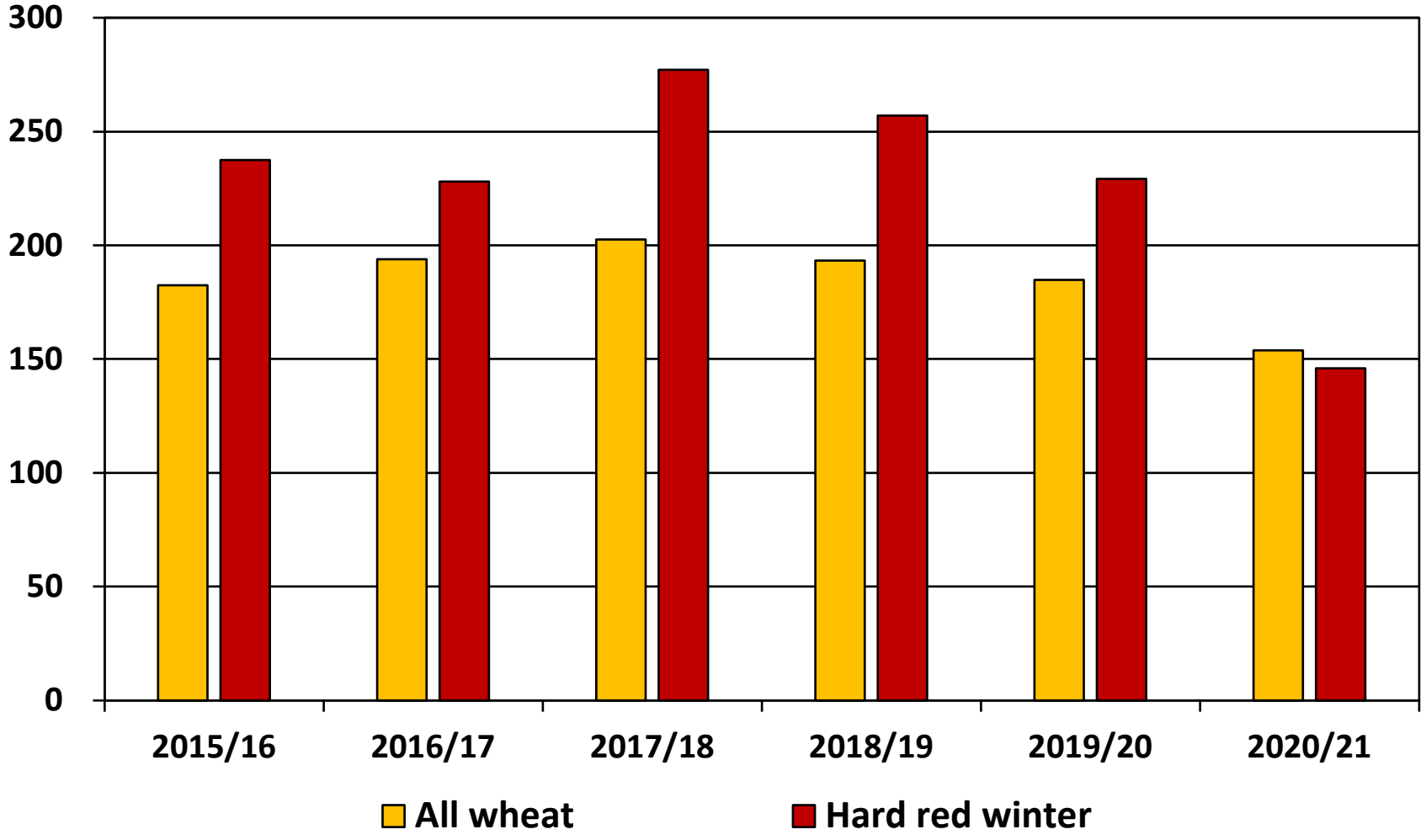
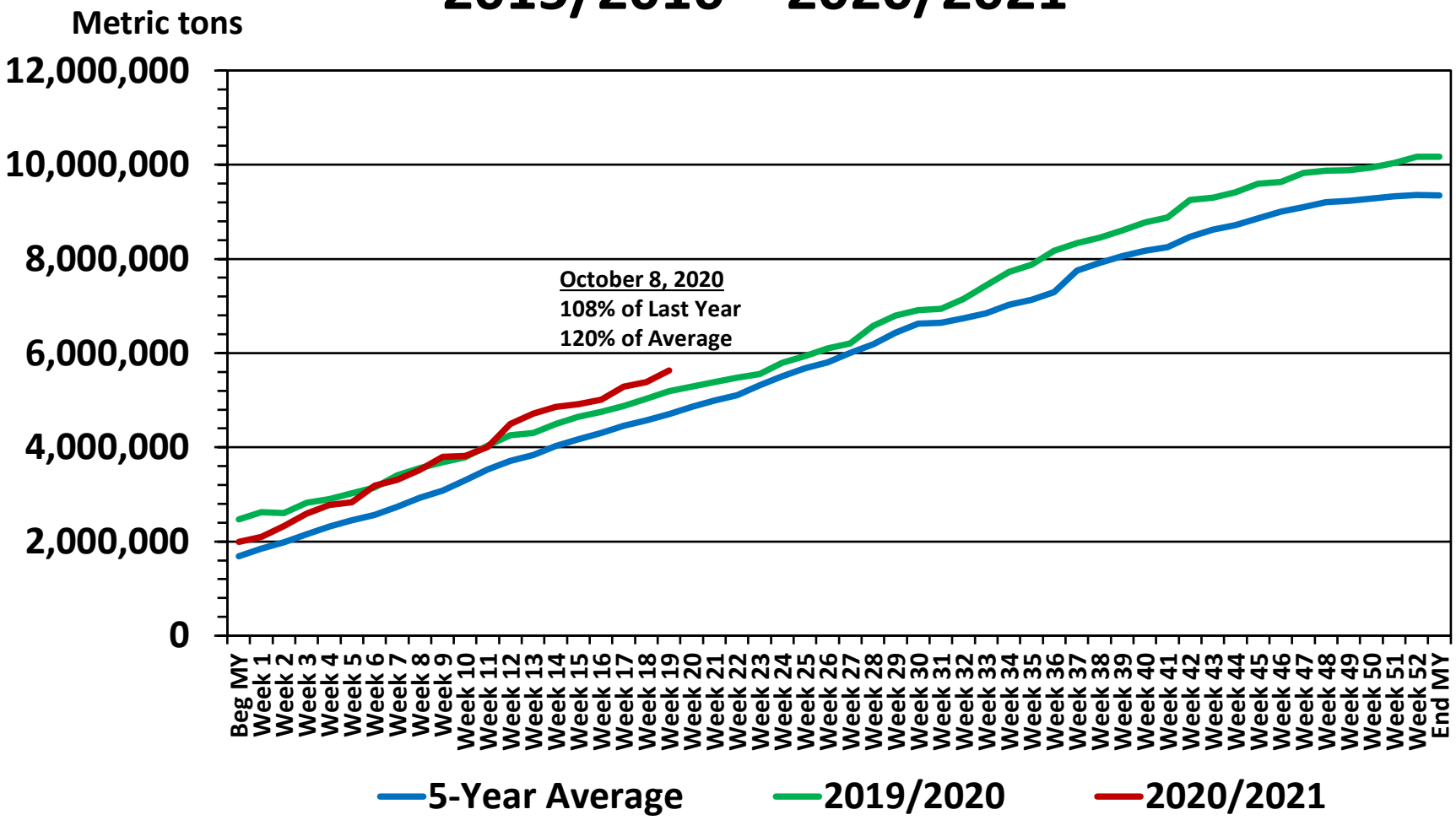
U.S. Wheat by Class:

Days of Use on Hand at the End of the Marketing Year



USDA, WASDE, October 2020

Cumulative Net Sales – World Total
HRW Wheat
2015/2016 – 2020/2021



Source: USDA/FAS/Exports Sales Reporting 10/16/2020

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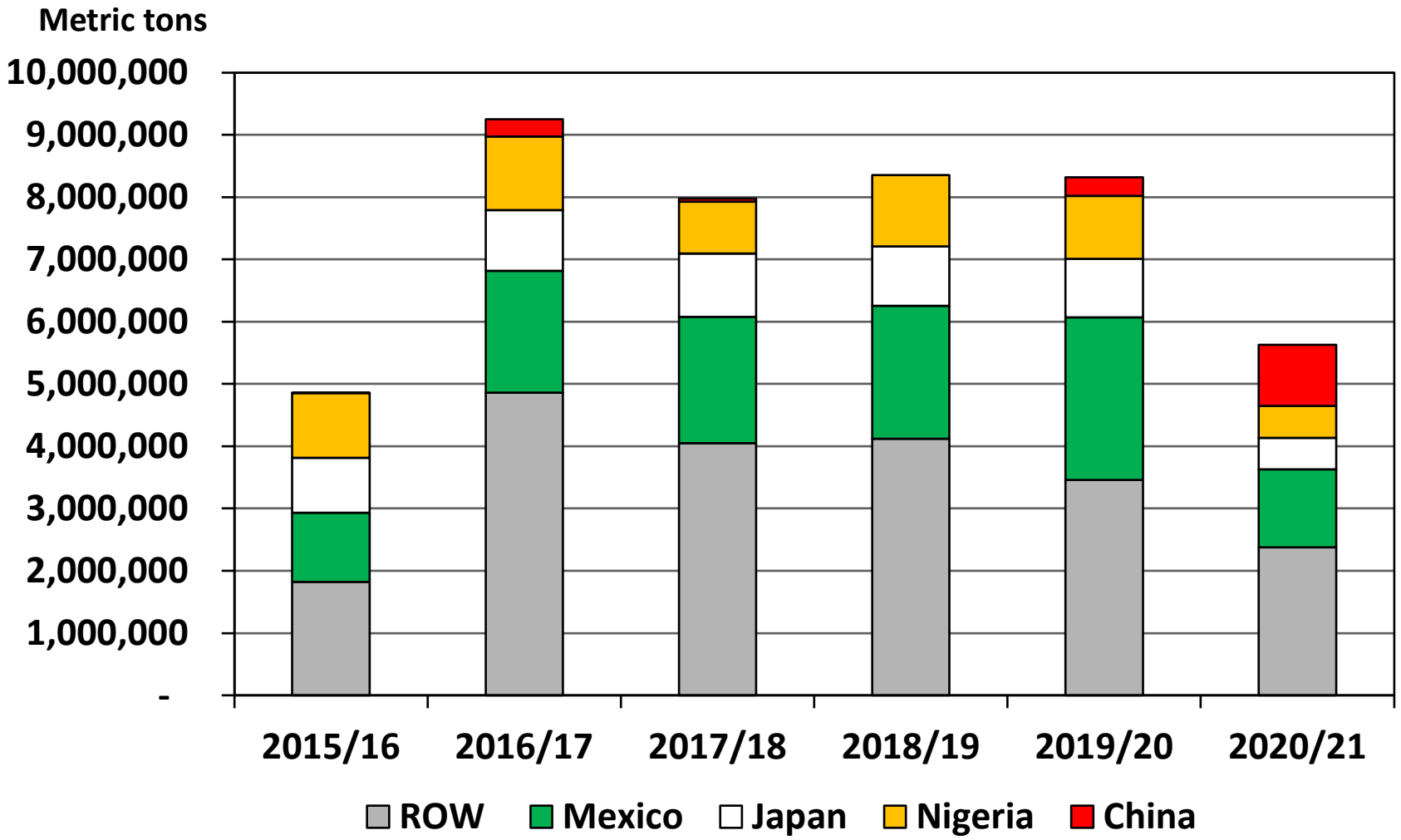
Hard Red Winter Wheat Export Sales



Source: USDA/FAS/Exports Sales Reporting 10/16/2020

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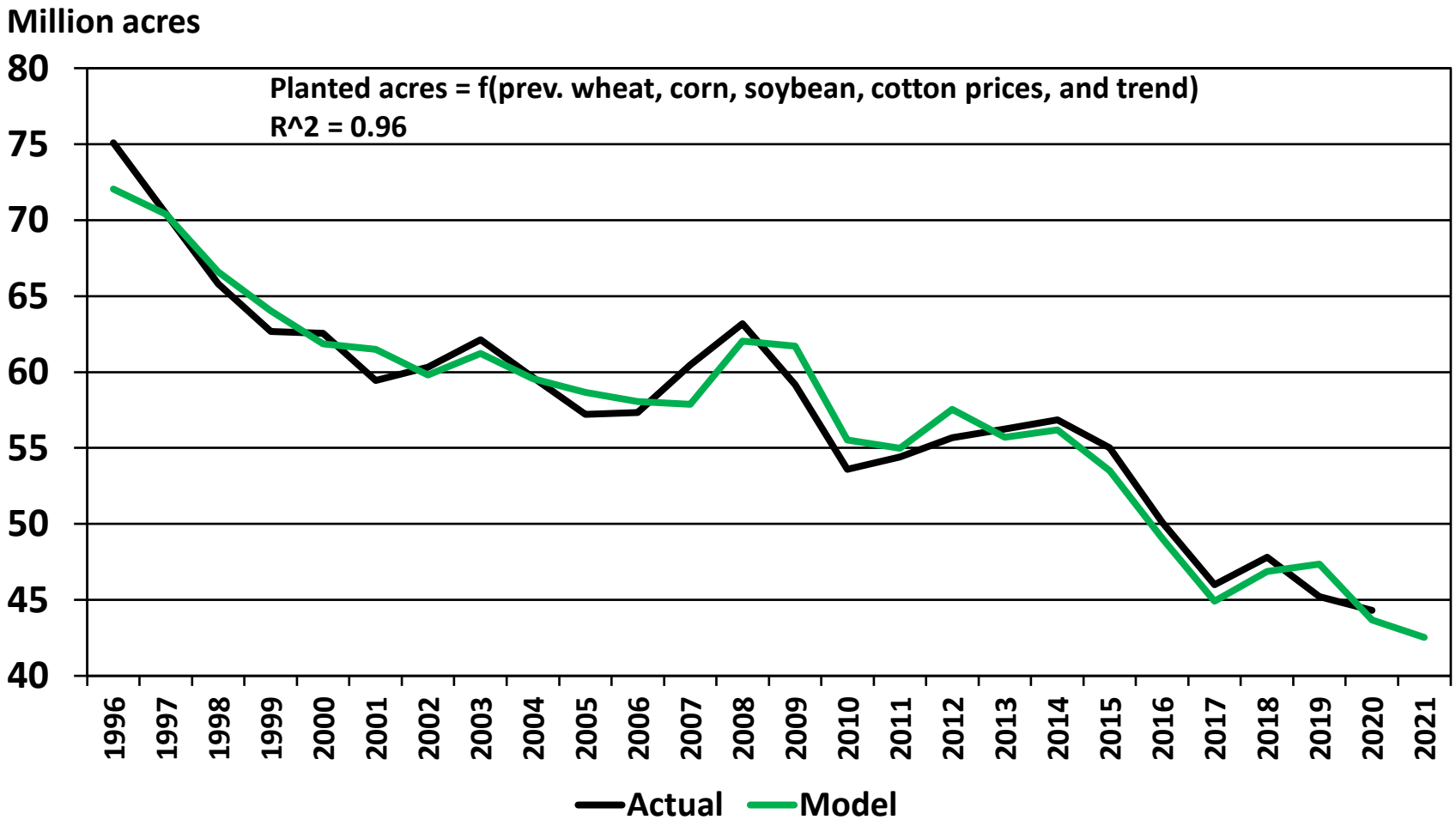
U.S. Wheat Planted Acres



USDA, NASS, updated 10/14/2020

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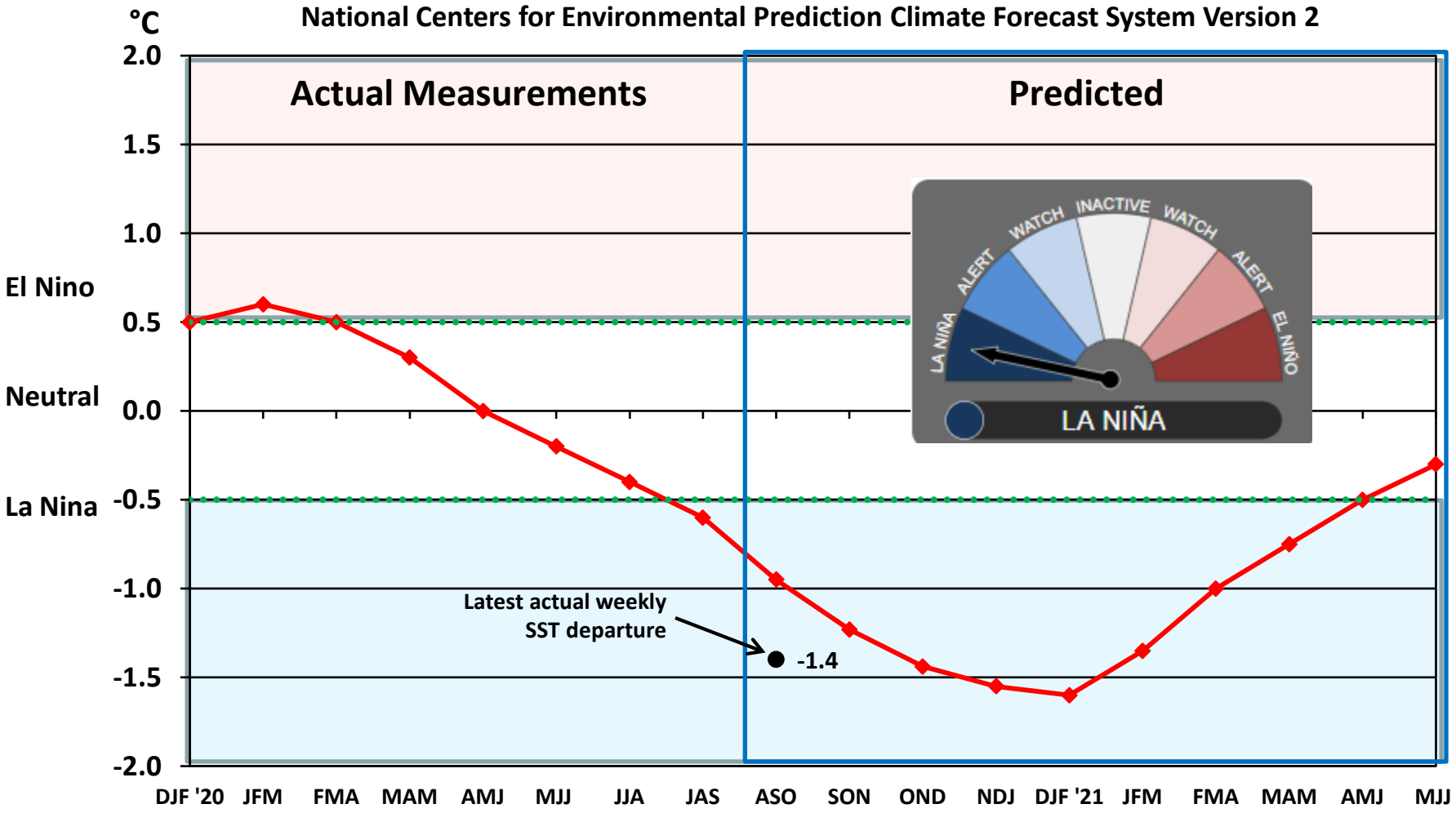
Oceanic Nino Index (ONI)

The CFS.v2 ensemble mean (red line) predicts La Niña will continue through spring 2021.



El Niño/Southern Oscillation (ENSO) Diagnostic Discussion, October 19, 2020
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/

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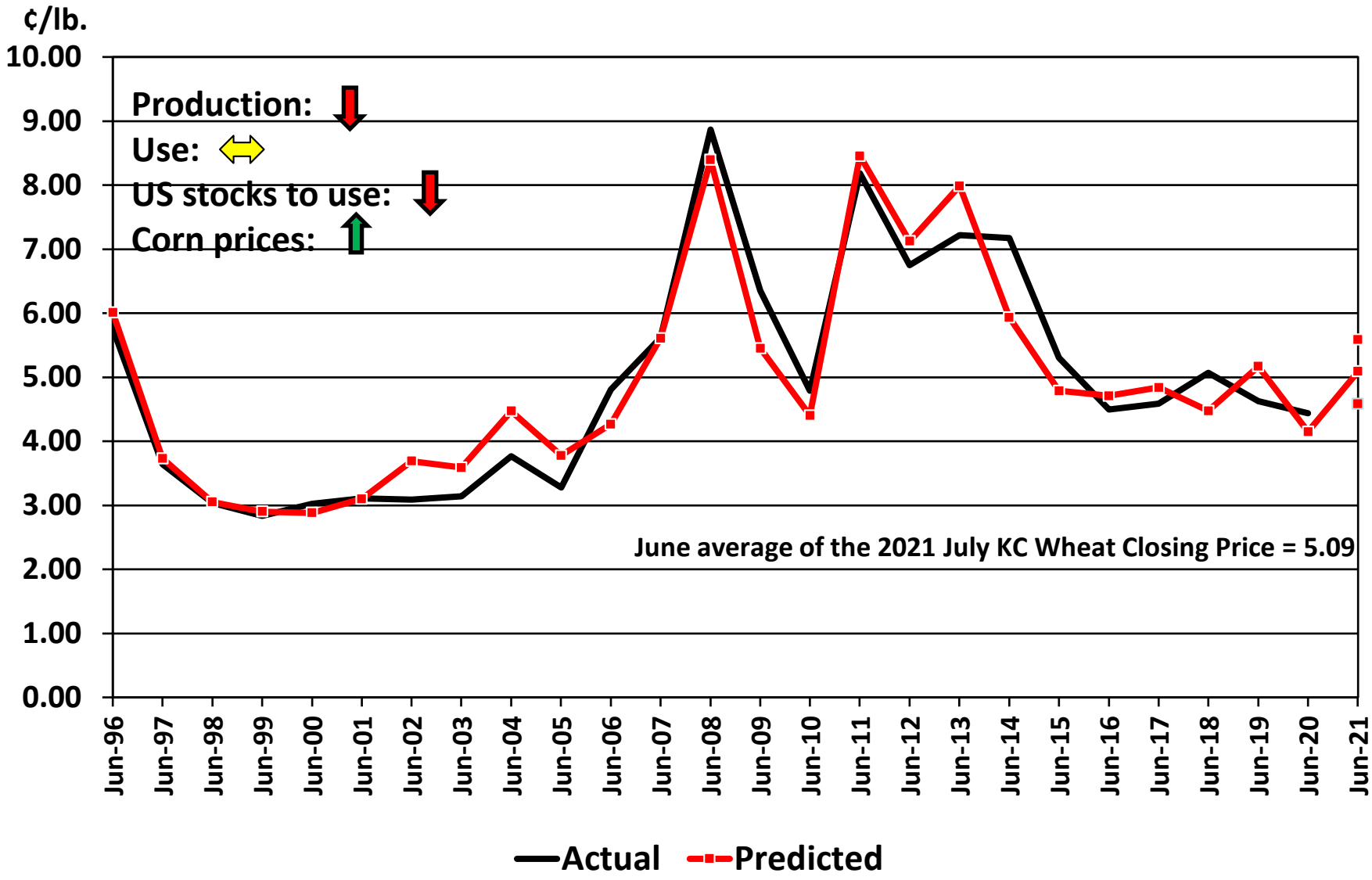
2021 July KC Wheat Futures Price Model ≈ 5.10



Jun avg price$_t$ = 406+(-1.3*USdays$_{t-1}$)+(0.9*nearby C$_t$)+(-0.1*Prod$_t$)+(6*trend); R^2 = 0.92
updated 10/14/2020

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2021 Supply and Demand Balance Sheet

Sorghum

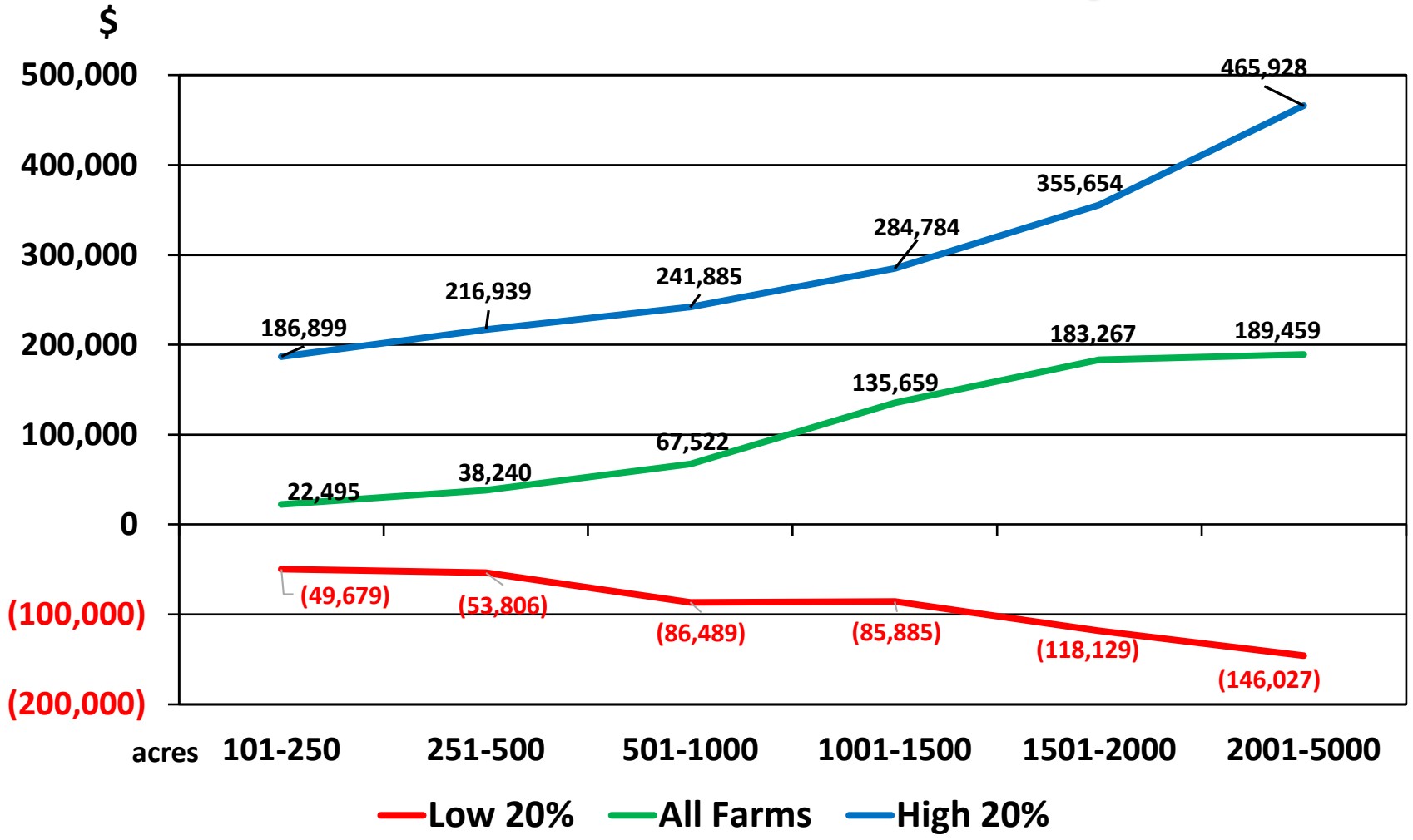
- Acres ↑
- Yield ↓ Weather/La Nina
- Production ↓
- Domestic Use ↓
- Exports ↑
- Ending Stocks ↔
- Price ↑

Hard Red Winter Wheat

- Acres ↔
- Yield ↓
- Production ↓
- Domestic Use ↔
- Exports ↔
- Ending Stocks ↓
- Price ↑

- Global Economy—pace of growth
- Trade—disputes, disruptions, uncertainty

Net Whole Farm Income by Acres
2019 Financial Summary



FINBIN (2020). Center for Farm Financial Management: University of Minnesota.

TEXAS A&M AGRILIFE EXTENSION

2019 Corn Summary Report

	Low 20%	All Farms	High 20%	Difference
Yield, bu/acre	162	178	191	+7%
Price (incl. hedging, crop ins., gov't payments)	4.10/bu	4.21/bu	4.36/bu	+4%
Cost (incl. mgmt. and labor)	4.81/bu	3.94/bu	3.30/bu	-16%
Net return	-$111.13	+$52.98	$208.39	+$139

FINBIN (2020). Center for Farm Financial Management: University of Minnesota.

Where Do Prices Go From Here?

1. *Be the low cost /high quality producer*

- Input Use Efficiency
  - Crop Rotations
  - Hybrids/ Variety
  - Conservation Tillage
  - Soil and Plant Testing
  - Precision Application

2. *Lock in profitable prices*

- Financial Management
  - Budget/ BE analysis
  - Cash Flow Projections
  - Crop Insurance
  - Price Safety Net
  - Marketing Plan

5% Rule

Corn budgets:

+$115 per acre

BE $3.90 drops to $3.53

Prices will fall back to the cost of production

--Principles of Economics, **Sir Alfred Marshall (1890)**

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