

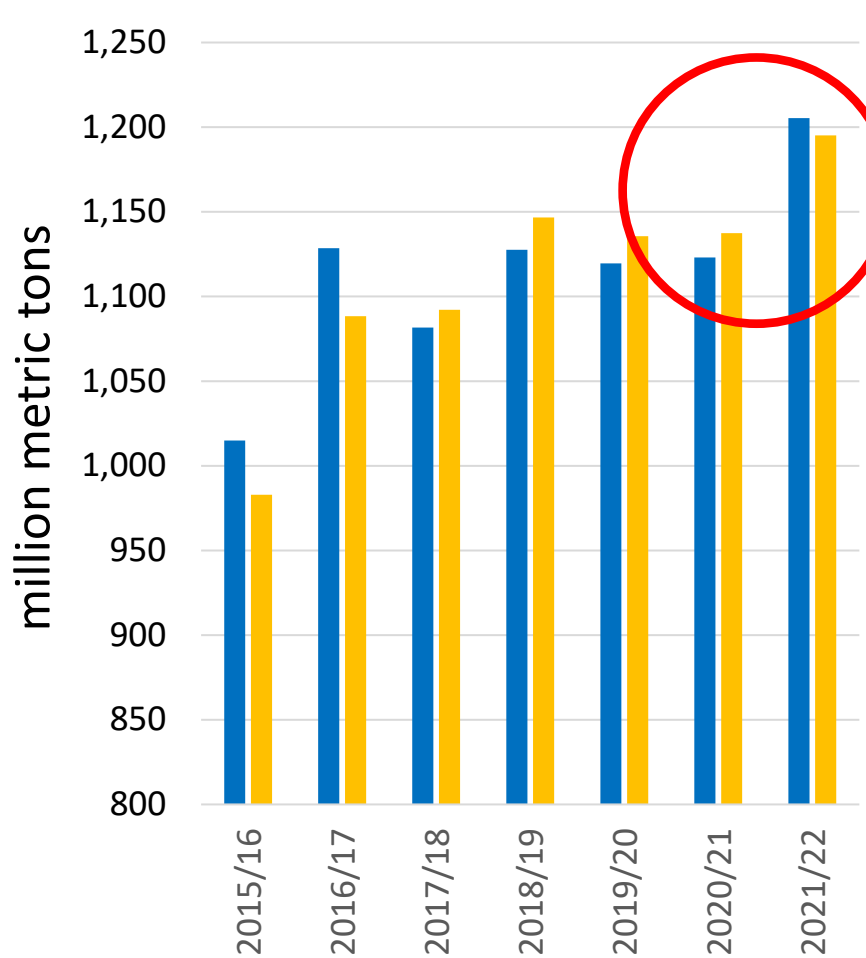
2022 Agricultural Outlook

Seth Meyer
Chief Economist, USDA

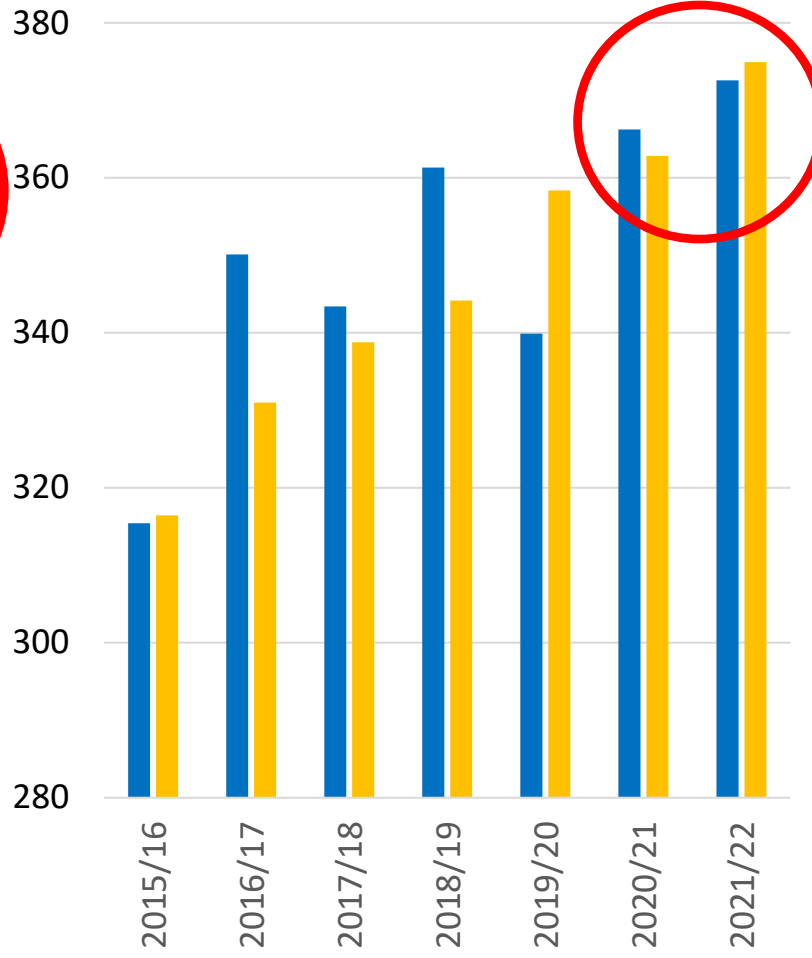


Higher Supplies and Higher Demand

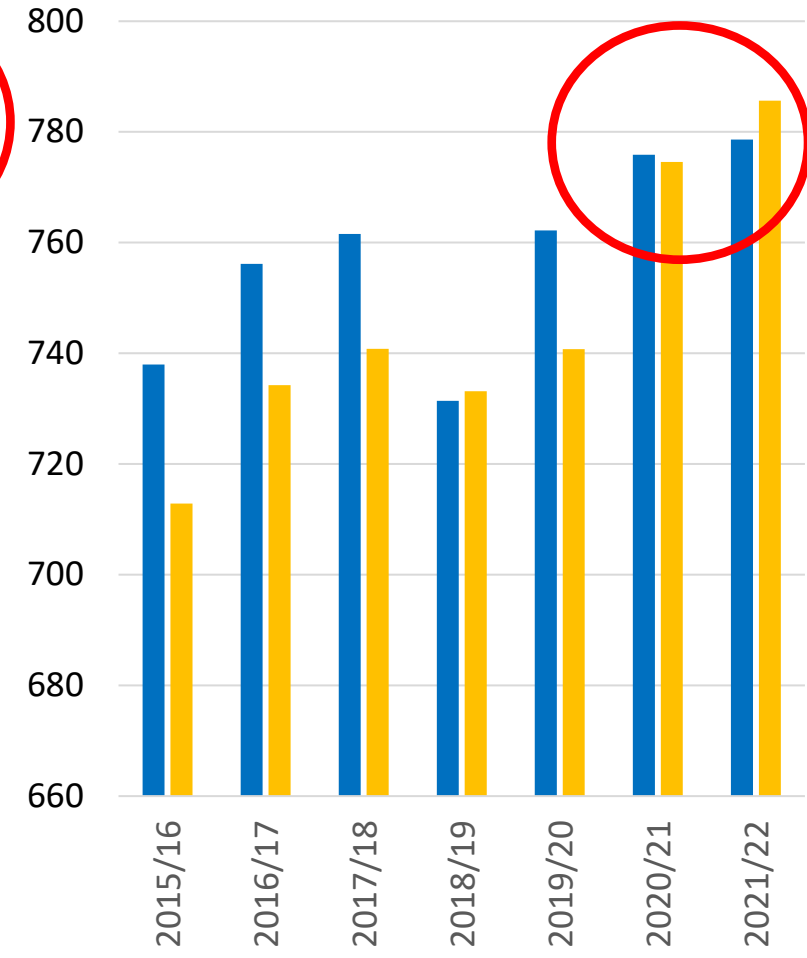
Corn



Soybeans

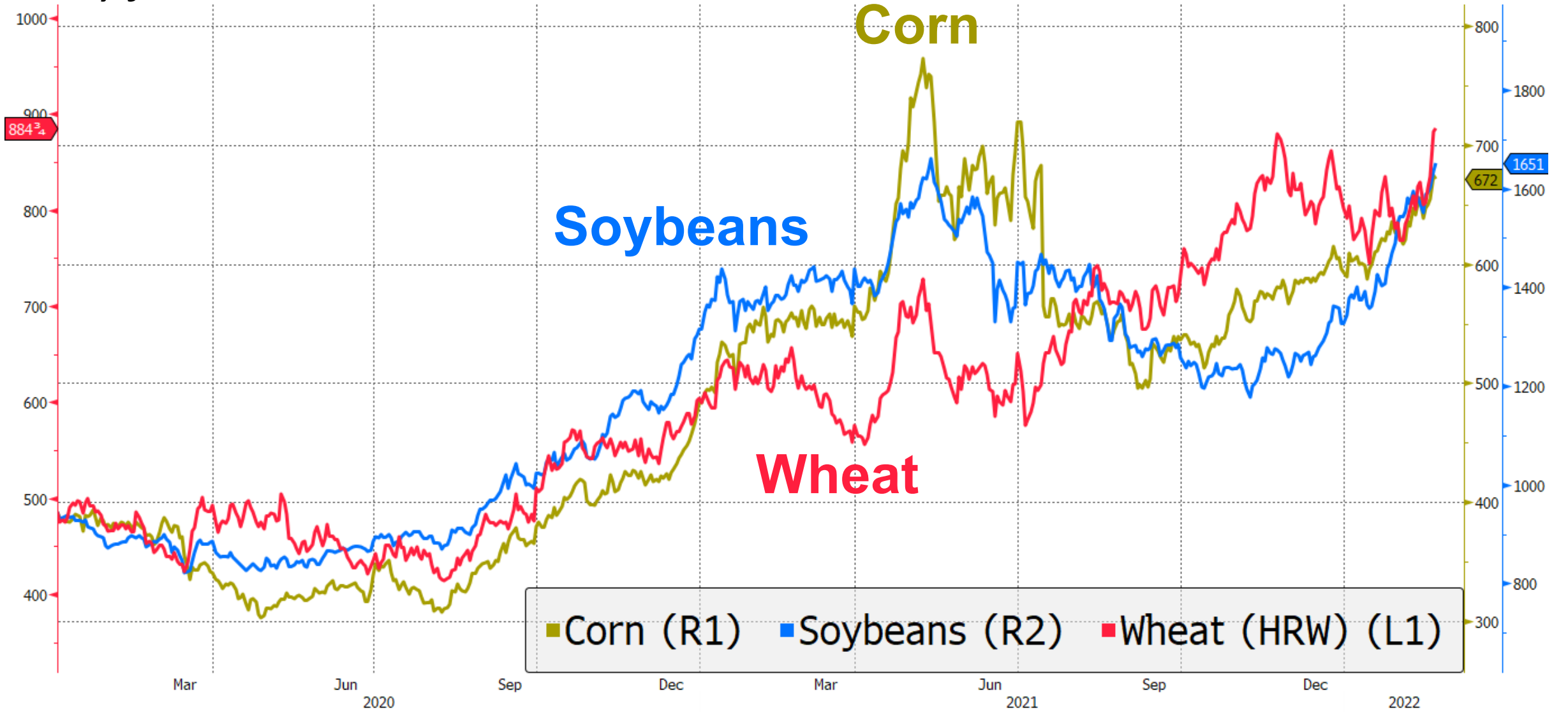


Wheat

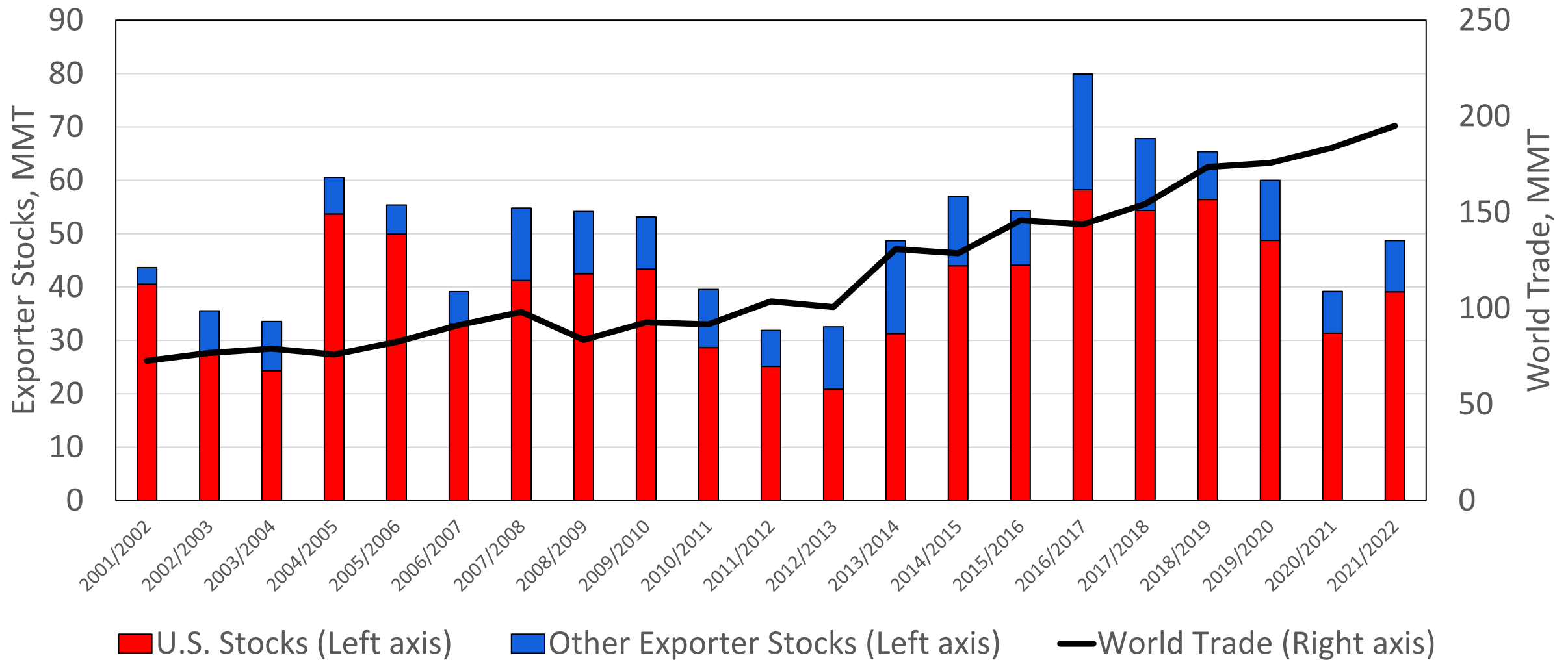


■ Production ■ Consumption

U.S. Corn, Soybean & Wheat futures Prices Moved Sharply Higher *nearby futures*

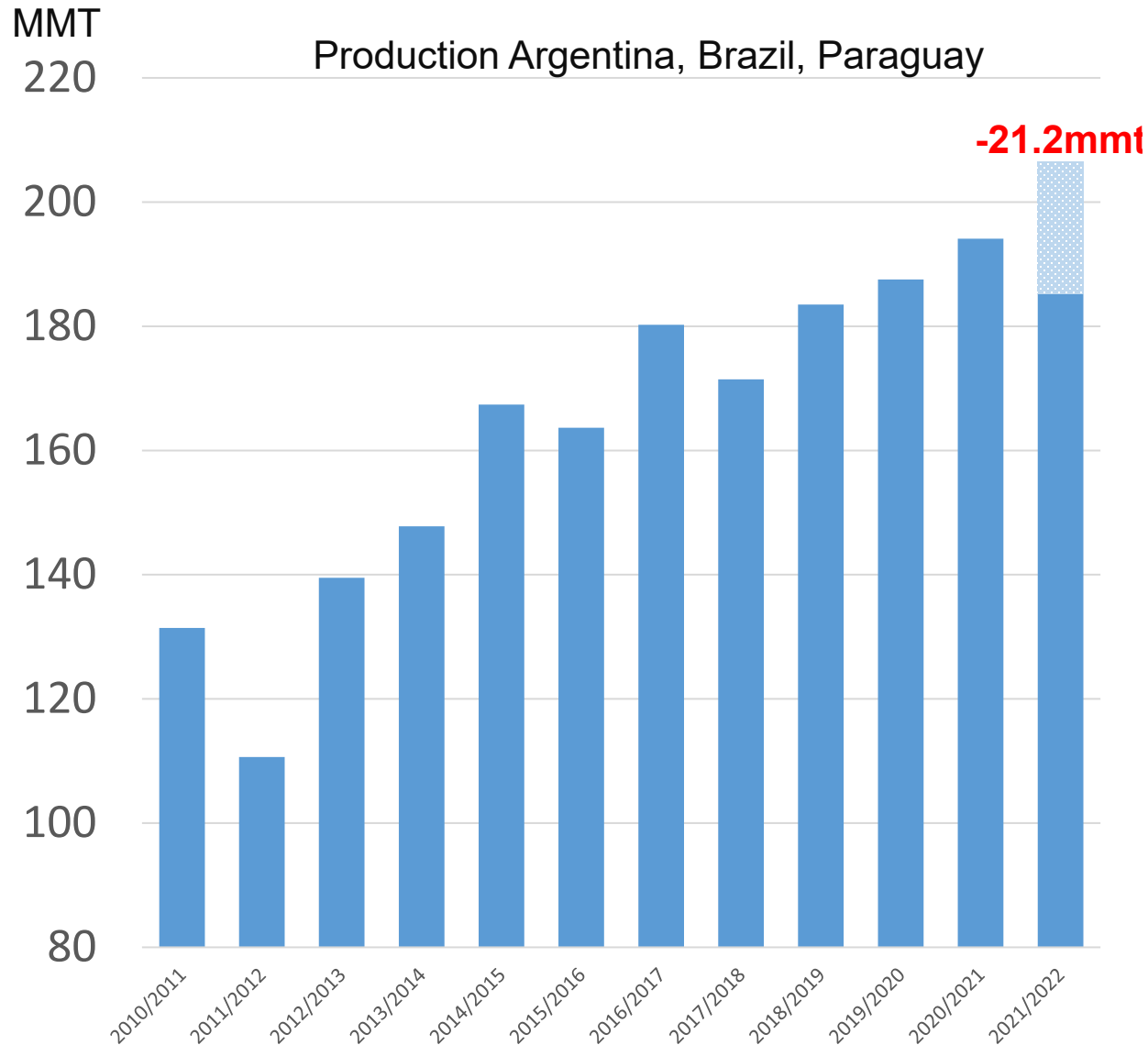


Corn Stocks in Exporting Countries Still Relatively Tight; World Trade Grows Despite High Prices

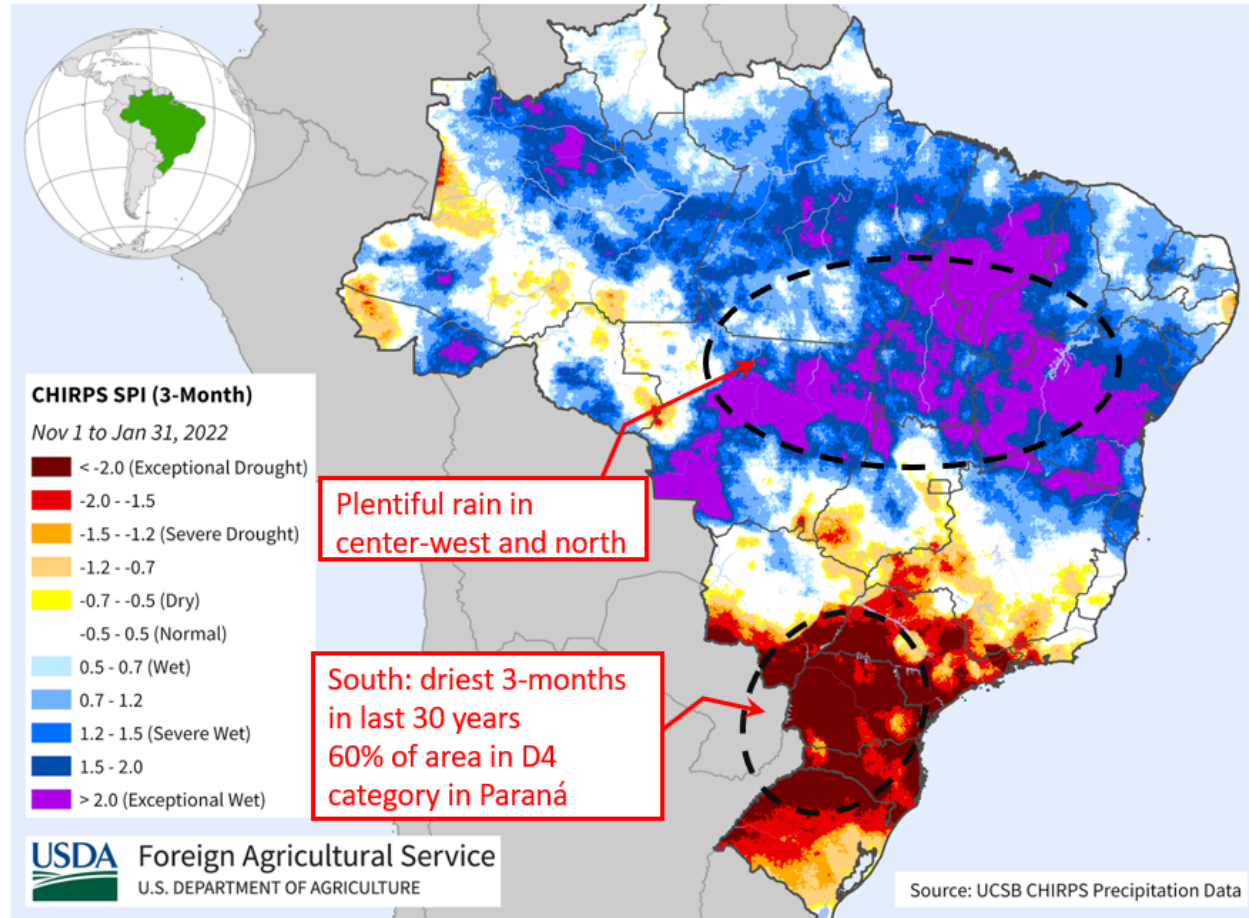


Source: USDA. Other exporters are Argentina, Brazil, Ukraine, and Russia. Trade Year basis.

Drought reduces 2022 South American Soybean Harvest



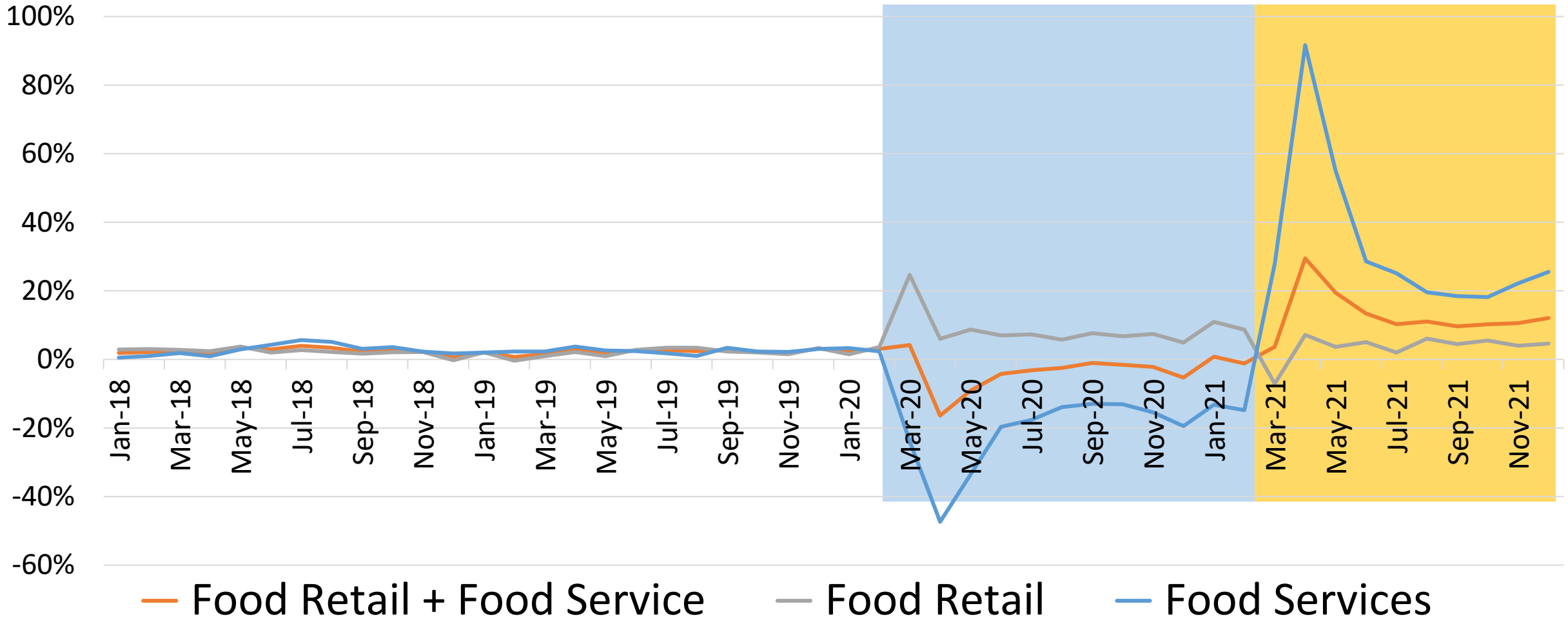
Brazil: 3-Month Standardized Precipitation Index



As of January 31, 2022

Consumer Food Demand Remains Strong

U.S. Real Expenditure growth for Food Retail and Food Service, Year over Year changes



Prices are Anticipated to Moderate, but Remain Strong

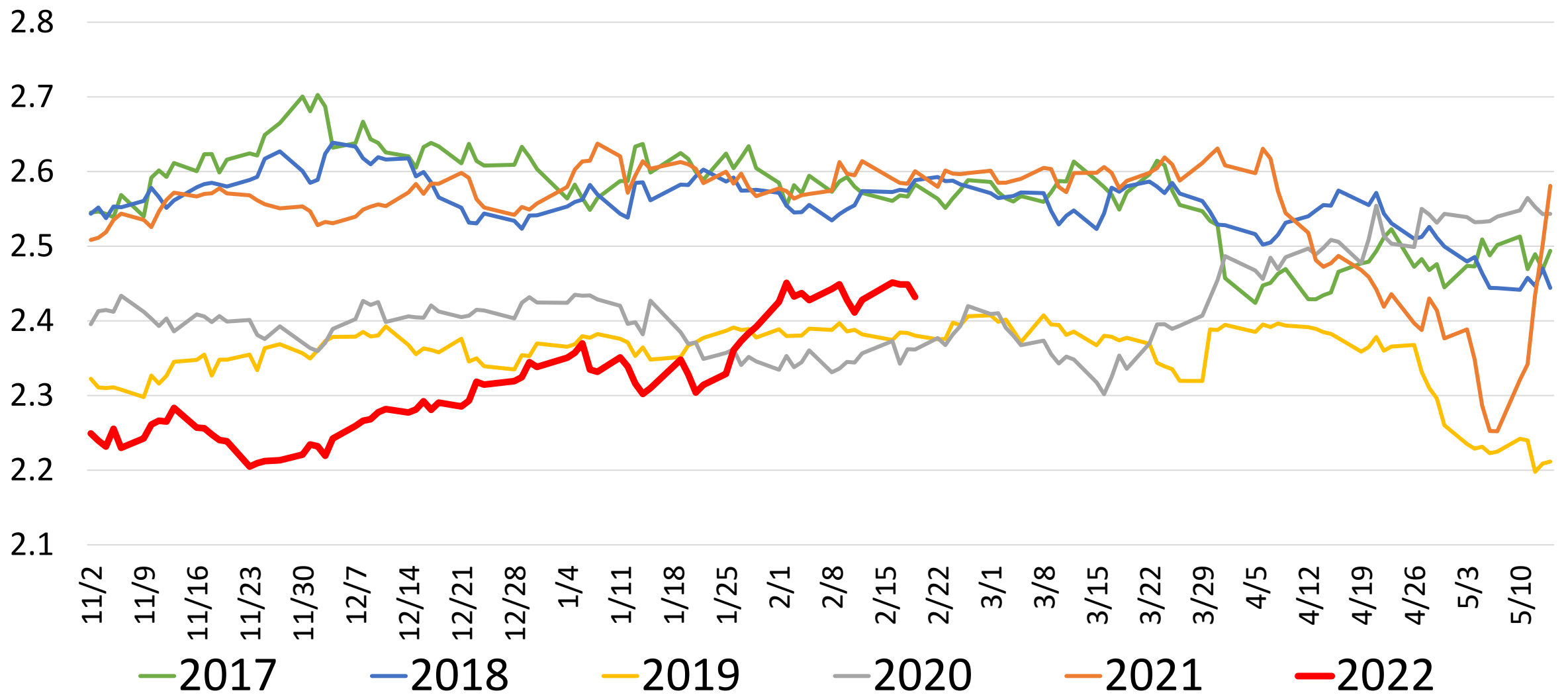
Crop	2010-2014 avg	2015	2016	2017	2018	2019	2020	2021	2022	Δ2022
Corn (\$ bushel)	5.29	3.61	3.36	3.36	3.61	3.56	4.53	5.45	5.00	-8.3%
Rice (\$ cwt)	14.4	12.2	10.4	12.9	12.6	13.6	13.7	15.70	16.10	2.5%
Sorghum (\$ bushel)	5.13	3.31	2.79	3.22	3.26	3.34	5.04	5.45	4.90	-10.1%
Soybeans (\$ bushel)	12.3	8.95	9.47	9.33	8.48	8.57	10.80	13.00	12.75	-1.9%
Upland Cotton (\$ lb)	0.76	0.61	0.68	0.69	0.70	0.60	0.66	0.90	0.80	-11.1%
Wheat (\$ bushel)	6.71	4.89	3.89	4.72	5.16	4.58	5.05	7.30	6.80	-6.8%
Barley (\$ bushel)	5.40	5.52	4.96	4.47	4.62	4.69	4.75	5.15		
Oats (\$ bushel)	3.37	2.12	2.06	2.59	2.66	2.82	2.77	4.00		

U.S. Wheat Planted Acres Rise after Long-Term Decline

- ▶ Wheat area rebounded in 2021 on higher winter wheat plantings.
- ▶ 2022 wheat area expected to rise again to 48.0 million acres on favorable new-crop prices. Spring wheat increase could be limited.
- ▶ Winter wheat harvested area remains a question given dry fall and winter conditions.



New Crop U.S. Soybean to Corn Price Ratio

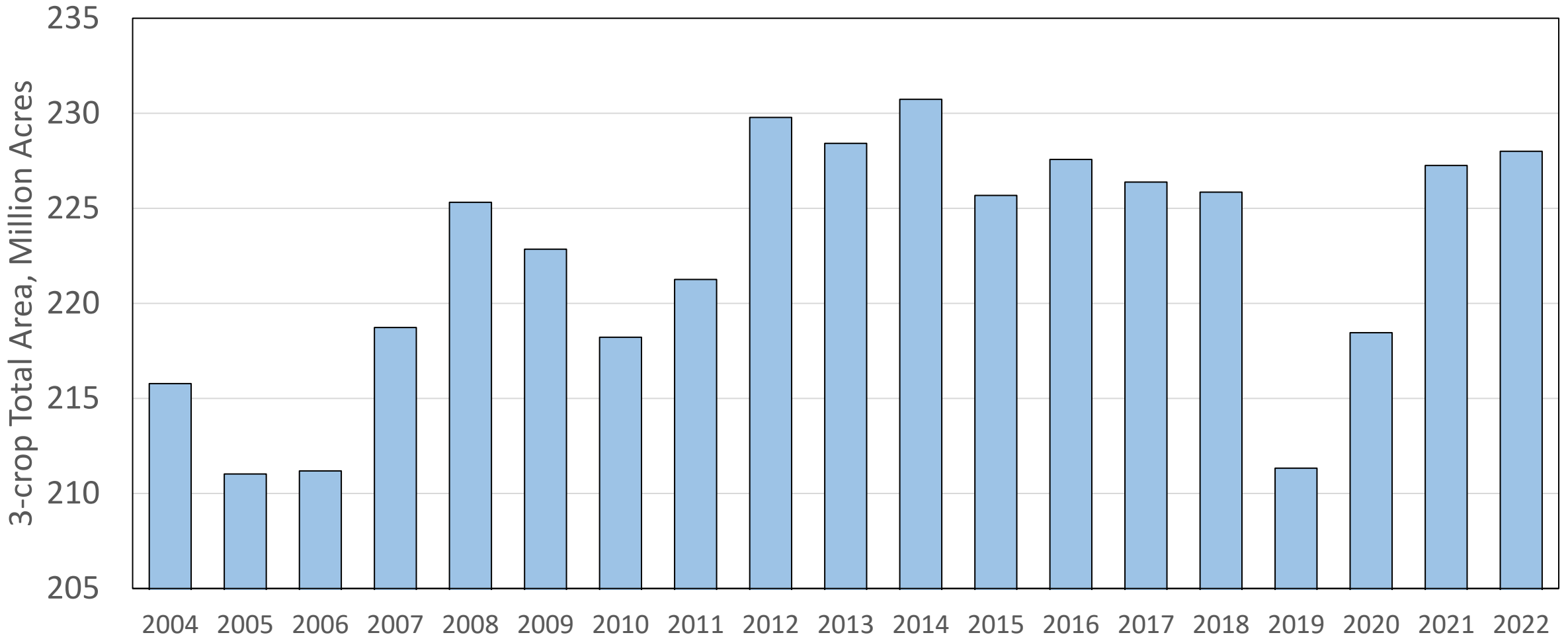


Source: CME
Note: Nov. Soybeans & Dec. Corn futures prices

Combined Corn (92ma), Soybean (88ma), and Wheat (48ma)

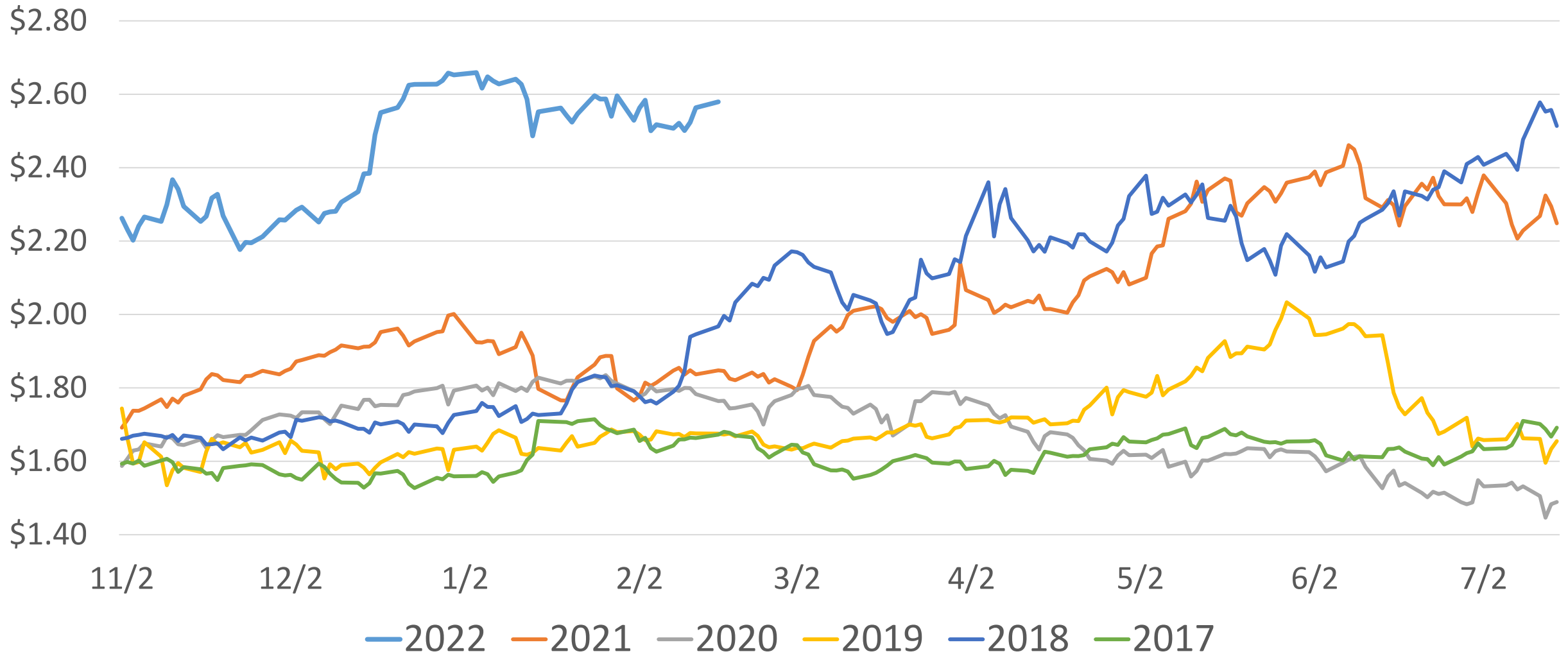
Area Modestly Above a Year Ago;

High prices for other crops and assumption of normal weather limits area expansion



Source: OCE-WAOB. 3-crops are corn, soybeans, and wheat.

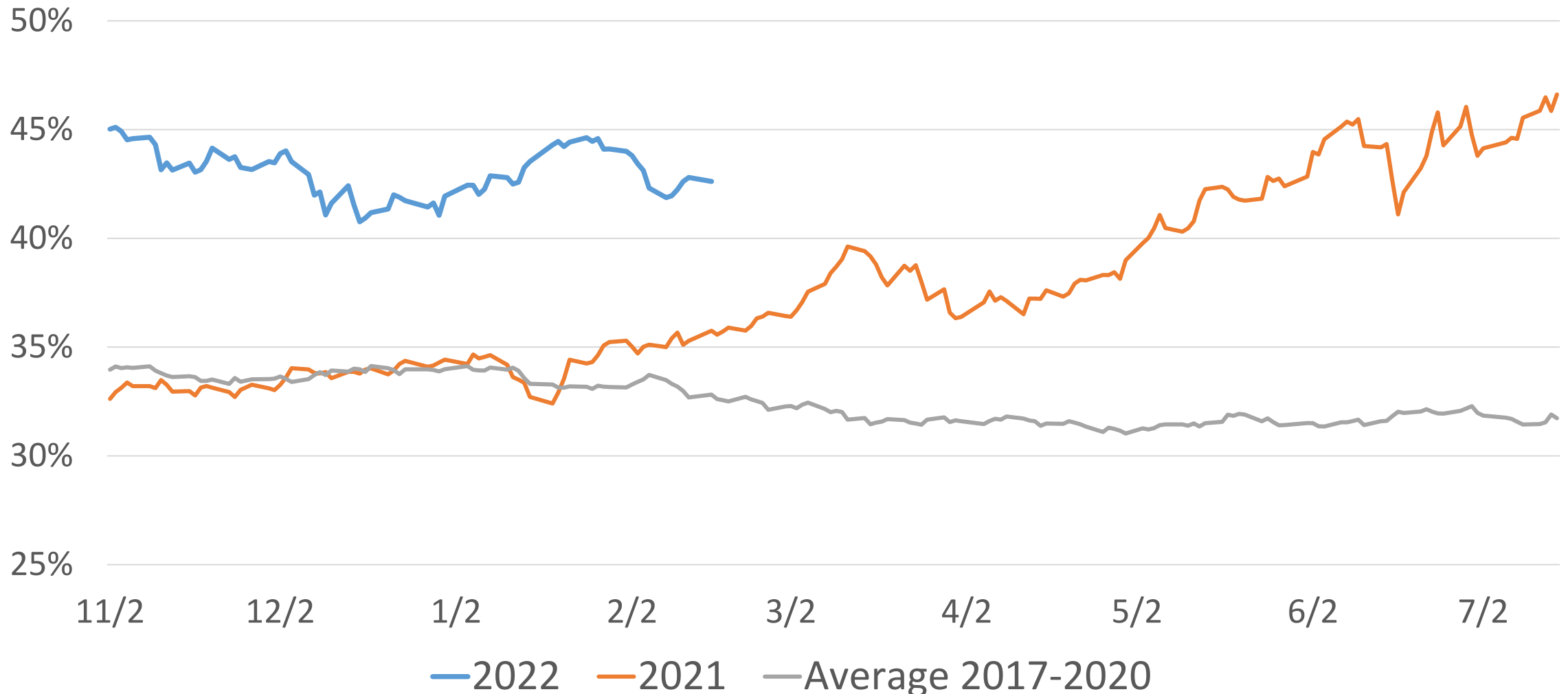
U.S. Soybean Futures Crush Margin is Historically High



Source: CME

Note: Futures Prices - Nov. Soybeans, Dec. Meal and Oil

Soybean Oil Share of Futures Crush Value is also Historically High

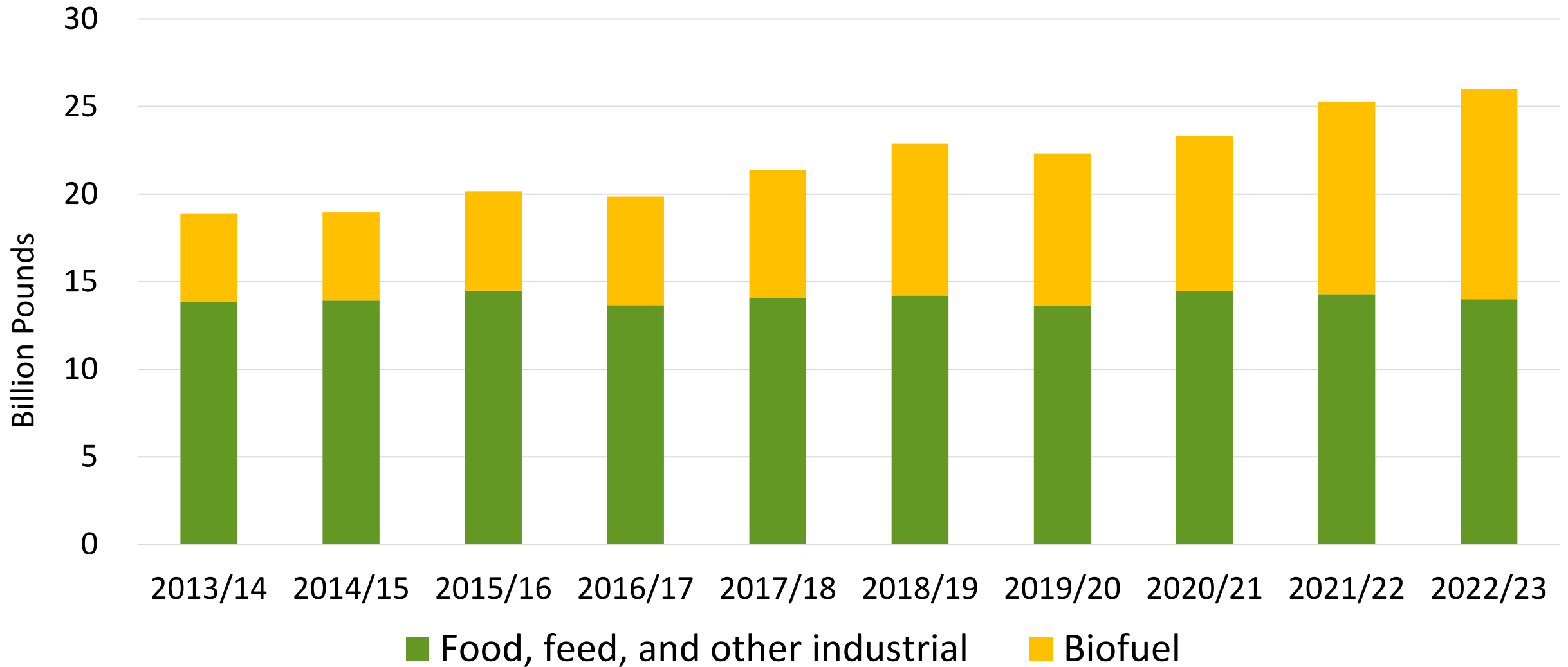


Source: CME

Note: Futures Prices - Nov. Soybeans, Dec. Meal and Oil

Soybean Oil for Biofuel Grows Rapidly Through 2022/23

leading to lower soybean oil for food, feed, and other industrial uses in 2022/23

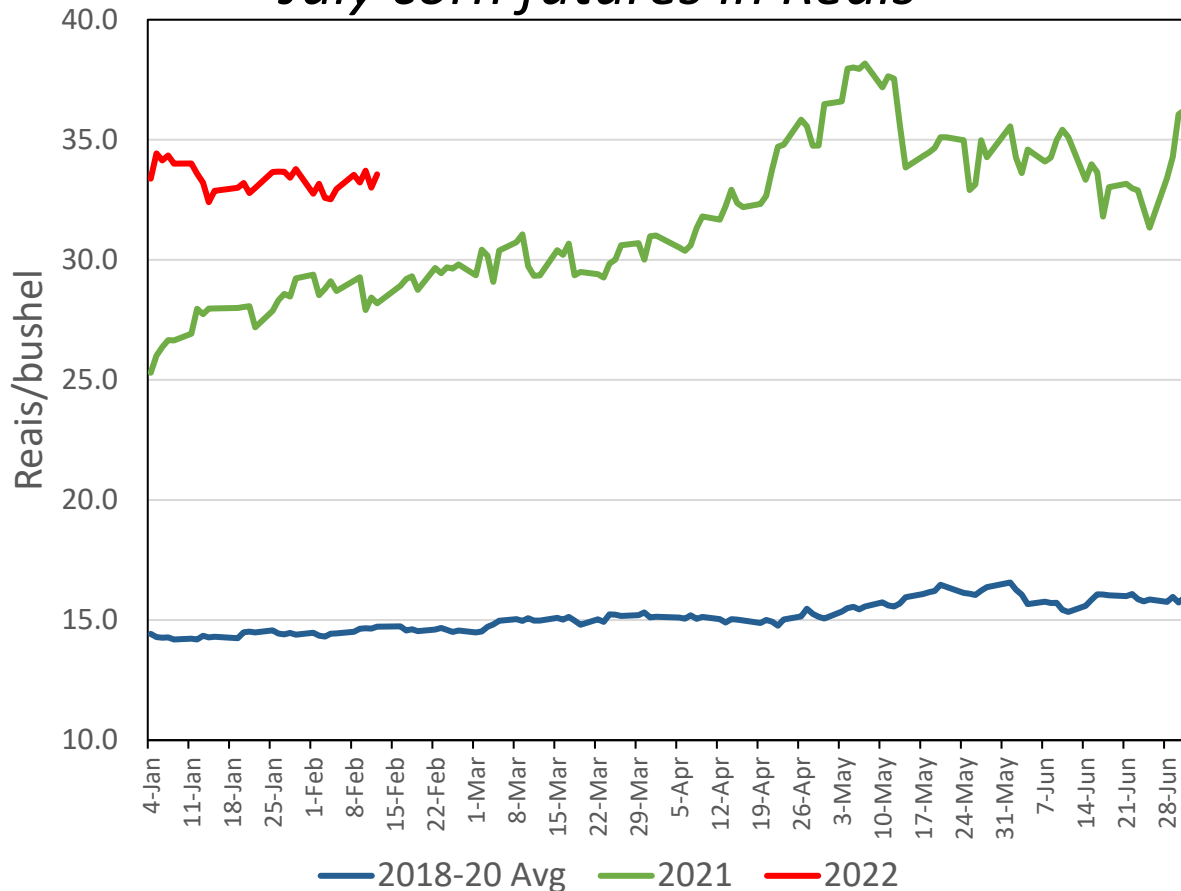


Low Brazil & Argentina October 1 Soybean Stocks Support Higher U.S. Exports this Fall



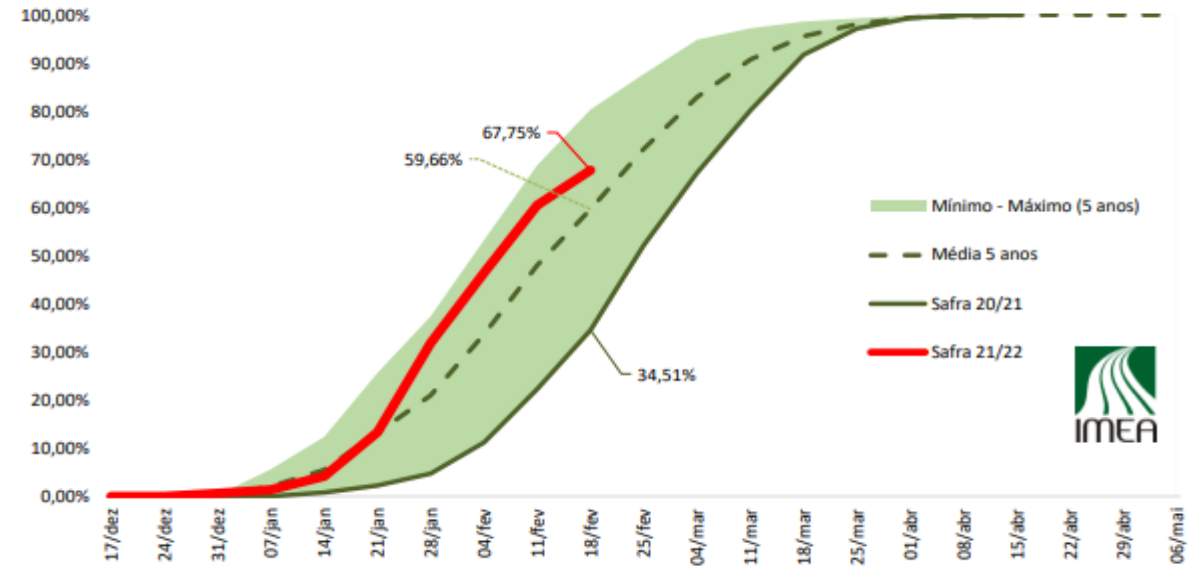
Brazil Corn Prices Support Continued Area Expansion; Critical Phase of Growing Season Ahead

July corn futures in Reais



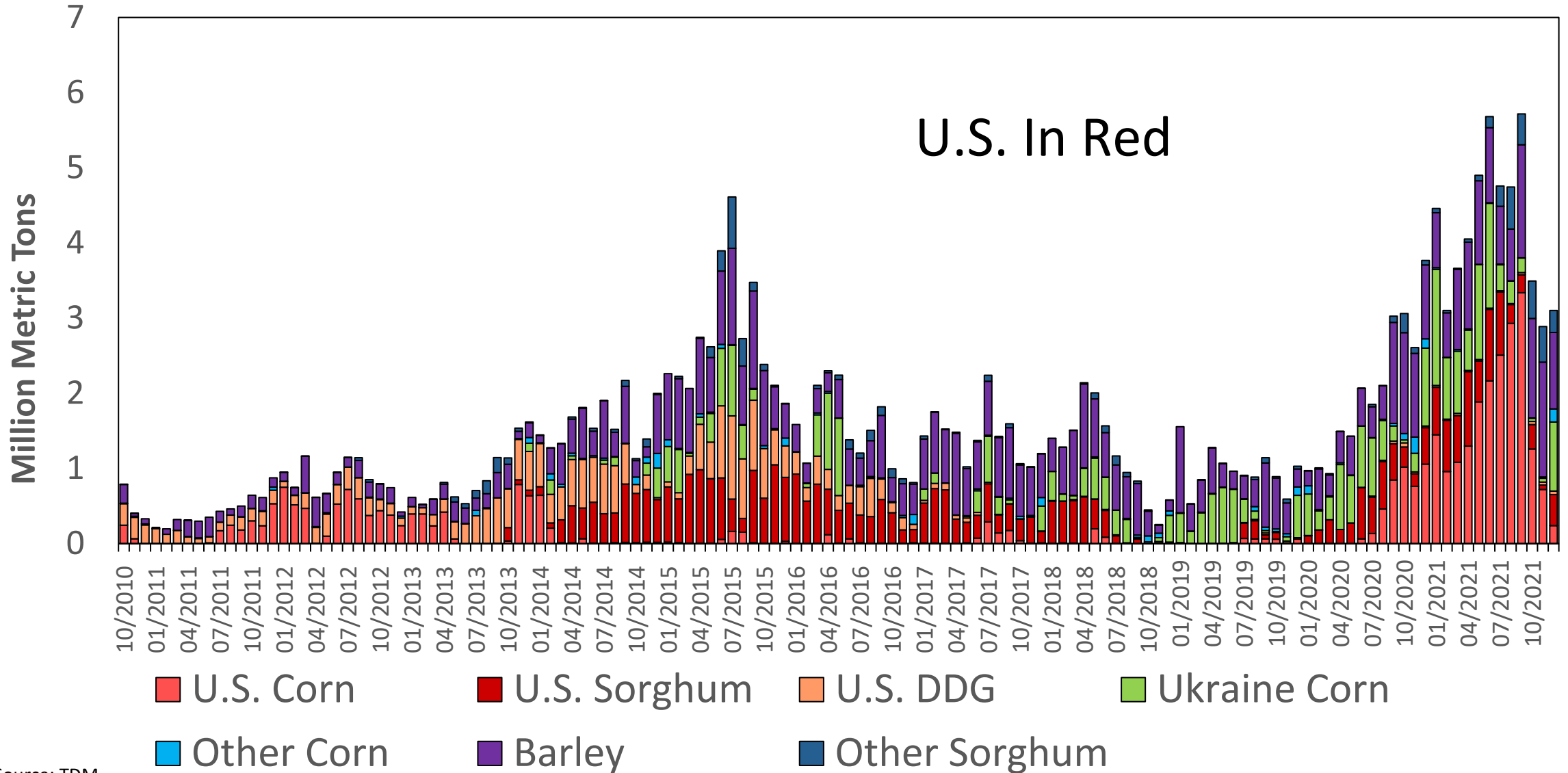
In contrast to year ago, fast soybean harvest in Brazil means accelerated planting of the safrina corn crop

EVOLUÇÃO DO PERCENTUAL DE ÁREA COLHIDA DE SOJA EM MATO GROSSO



Fonte: Imea

China's Large Imports of Feedstuffs Expected to Continue



Source: TDM

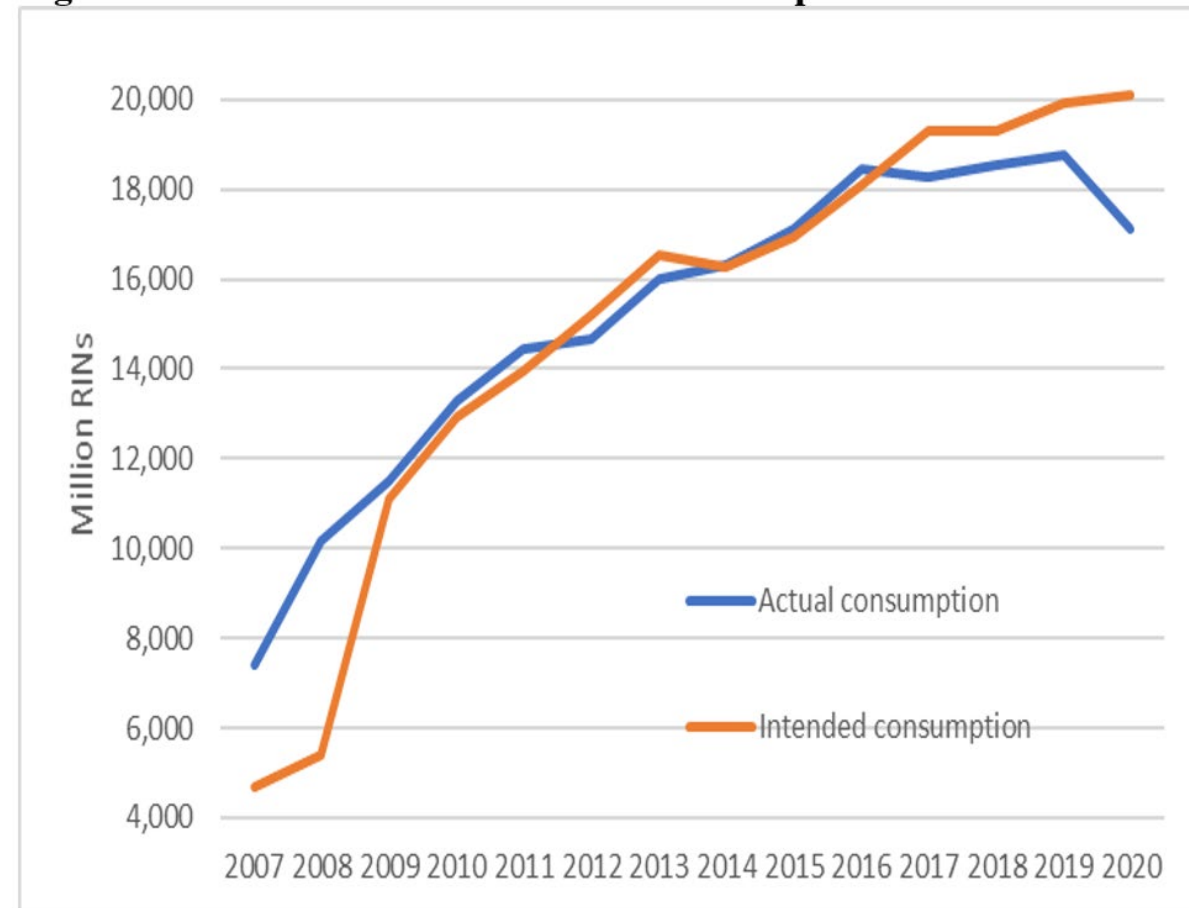
Renewable Fuel Standard

Small refinery exemptions and covid impacts have left the RFS short of published volumes

Billion gallons

Category	Cellulosic Biofuel	Biomass-Based Diesel ^b	Advanced Biofuel	Total RFS	implied conventional (corn ethanol)	Supp. Standard
2017	0.311	2	4.28	19.28	15.00	n/a
2018	0.288	2.1	4.29	19.29	15.00	n/a
2019	0.418	2.1	4.92	19.92	15.00	n/a
2020 (P)	0.51	2.43 ^c	4.63	17.13	12.50	n/a
2021 (P)	0.62	2.43 ^d	5.2	18.52	13.32	n/a
2022 (P)	0.77	2.76	5.77	20.77	15.00	0.25

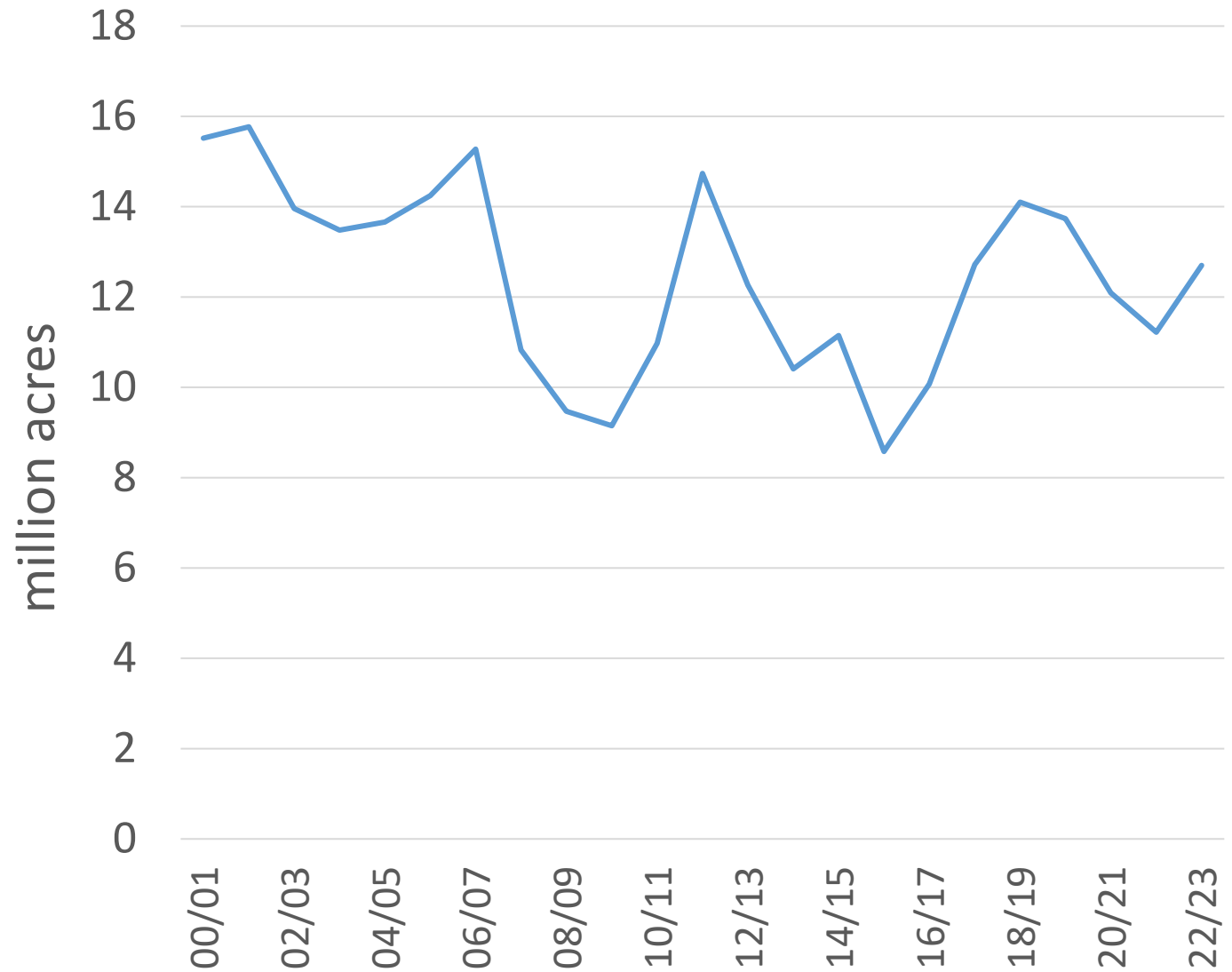
Figure 1.2-4: Intended Versus Actual Consumption of Total Renewable Fuel



Source: EPA Proposed Volume Standards for 2020, 2021, and 2022

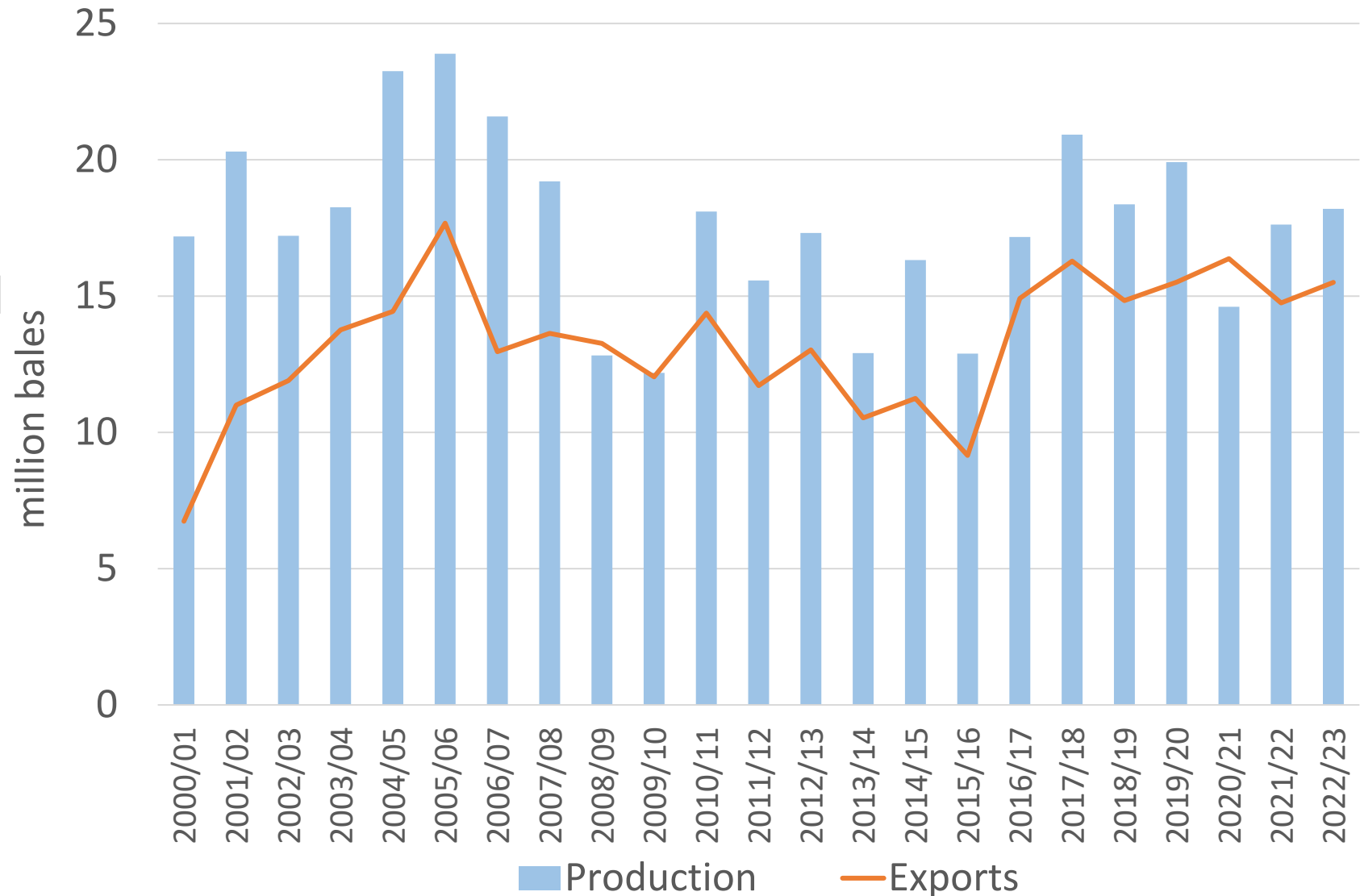
U.S. Cotton Planted Area Higher

- ▶ Cotton planted area rising with historically strong cotton prices.
- ▶ Cotton harvested area still a question given persistent dryness in some major cotton areas.



U.S. Cotton Crop and Exports

- ▶ Cotton stocks rose slightly last year as logistics problems slowed exports
- ▶ Cotton demand held up well in total and relative to other fibers in 2021
- ▶ Despite the projected larger crop, carryout stocks essentially unchanged

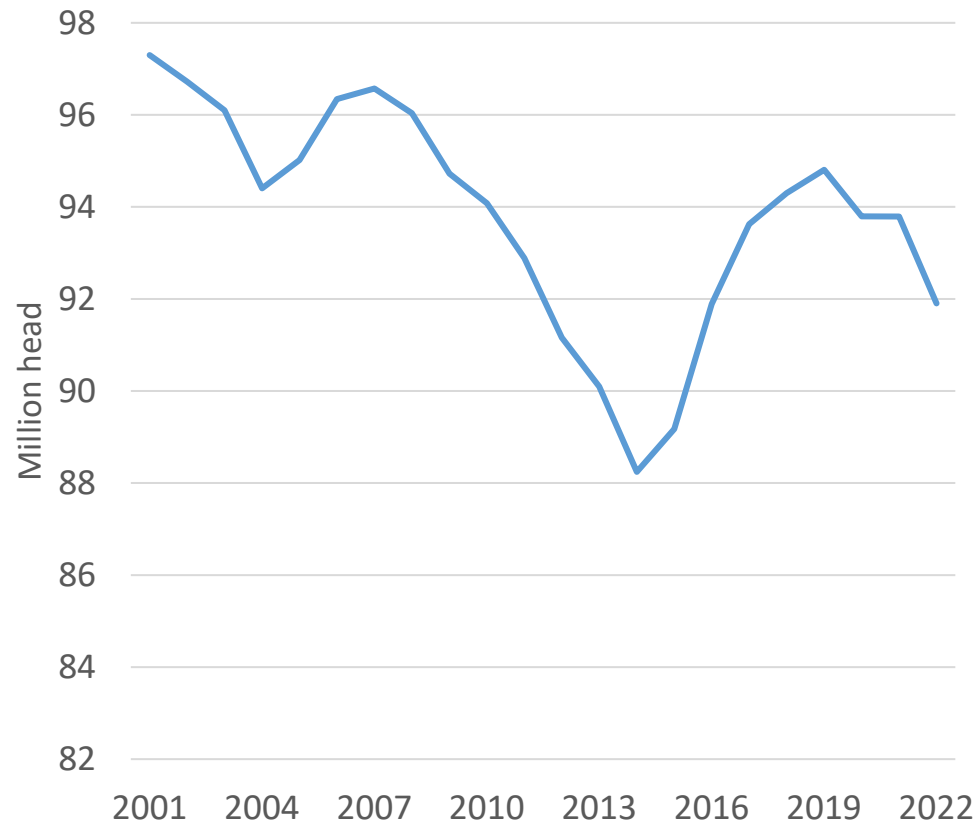


Livestock Prices

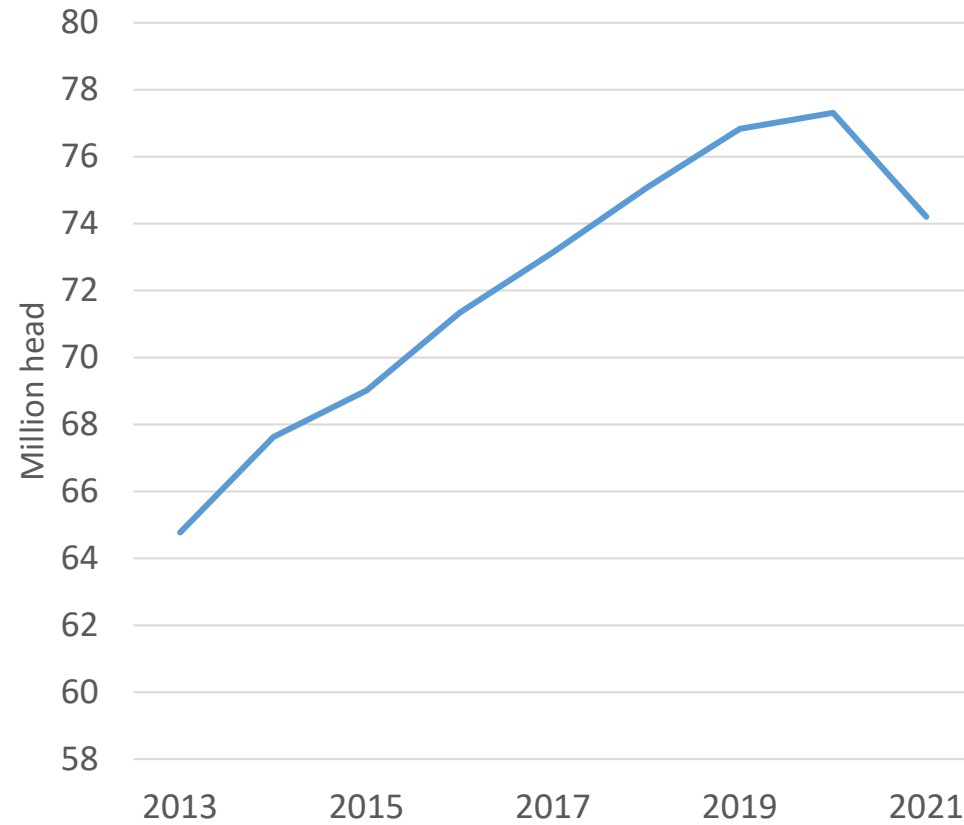
	2017	2018	2019	2020	2021	2022f
	dollars per hundredweight					
Cattle	121.52	117.12	116.78	108.51	122.40	137.50
Hogs	50.48	45.93	47.95	43.18	67.29	65.00
	cents per pound					
Broilers	93.5	97.8	88.6	73.2	101.2	113
Turkeys	96.1	80.2	89.2	106.5	122.8	126
	cents per dozen					
Eggs	100.9	137.6	94.0	112.2	118.5	131

Smaller Livestock Inventories will Lead to Tighter Red Meat Supplies

U.S. Cattle Inventory, January 1



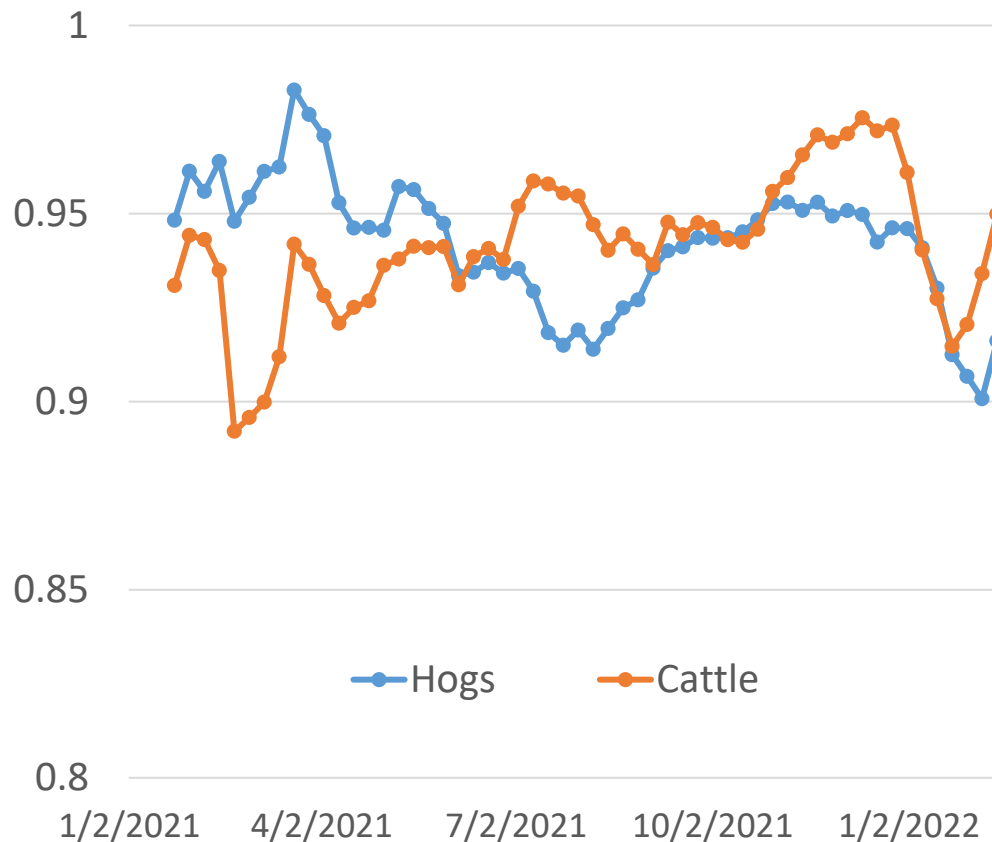
U.S. Hog Inventory, December 1



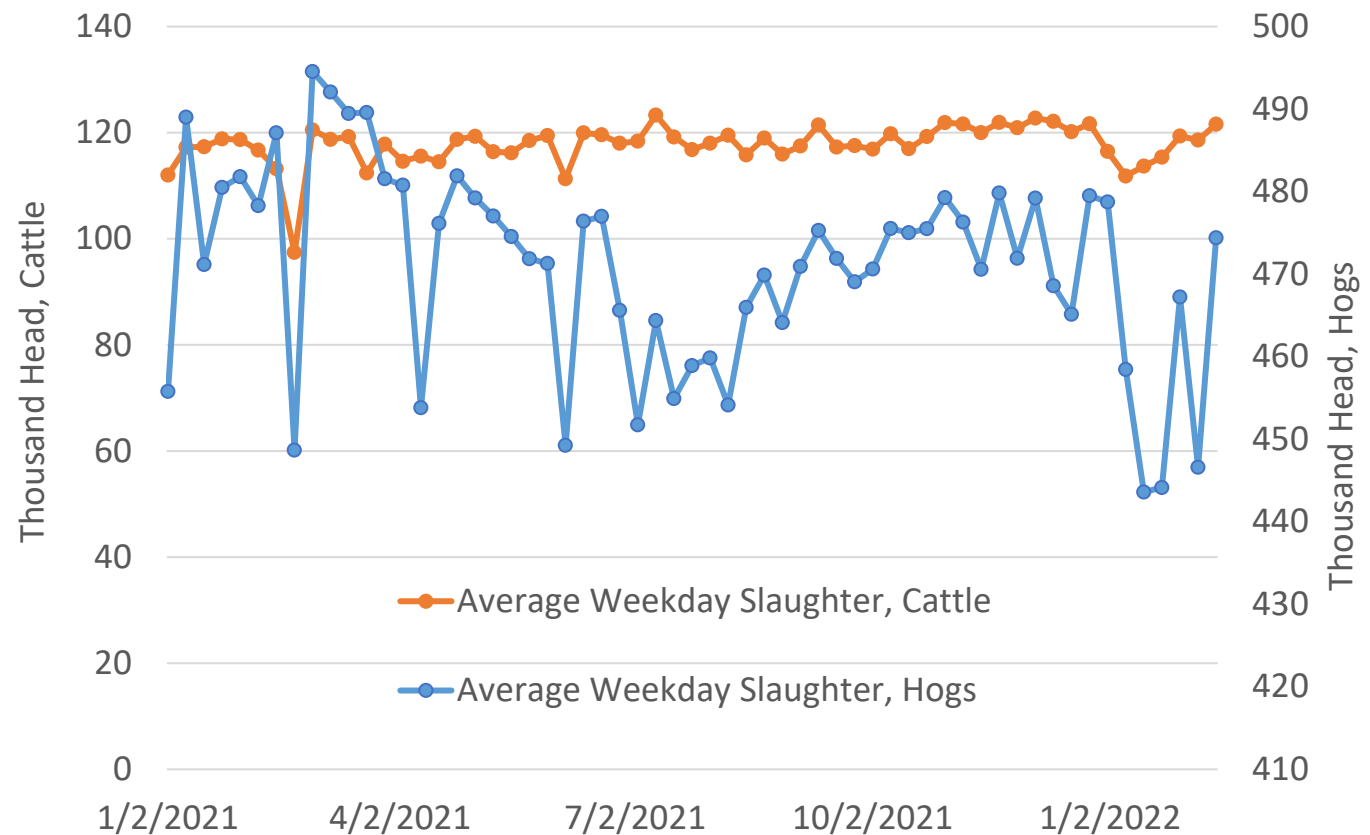
Beef and Pork Slaughter Rates Variable

U.S. Beef and Pork Plant Capacity Utilization

4 week running average



Average Weekday Cattle and Hog Slaughter

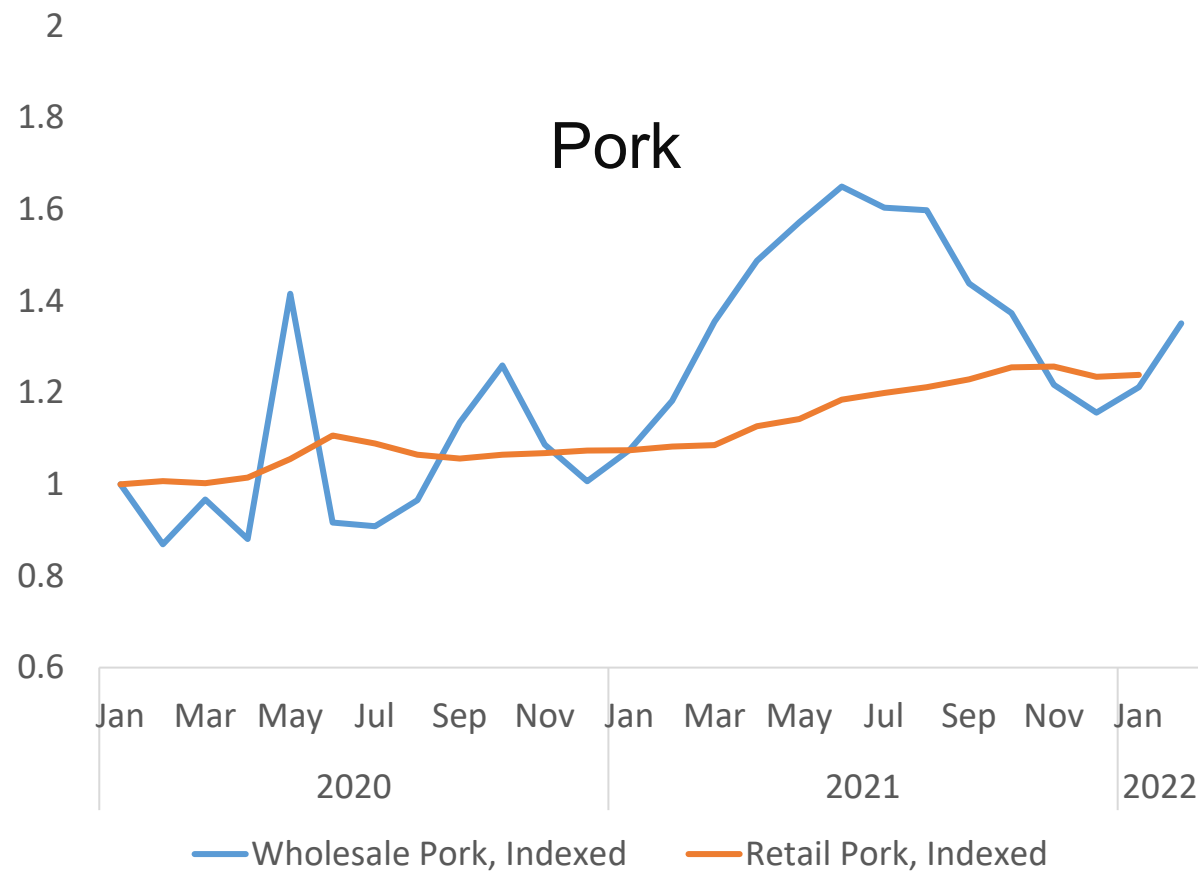
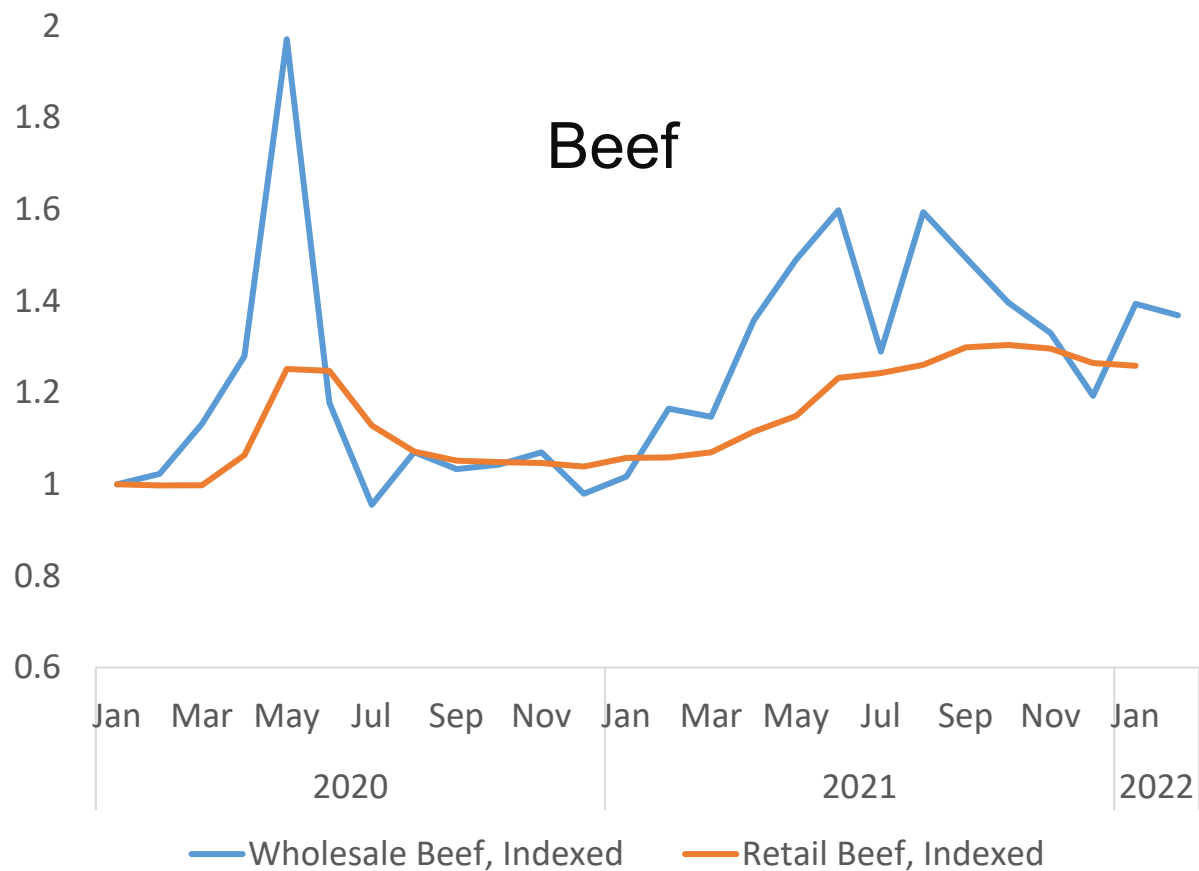


Note: Excludes weekend operations. Adjusted to account for holiday operations.

Sources: USDA and National Pork Board

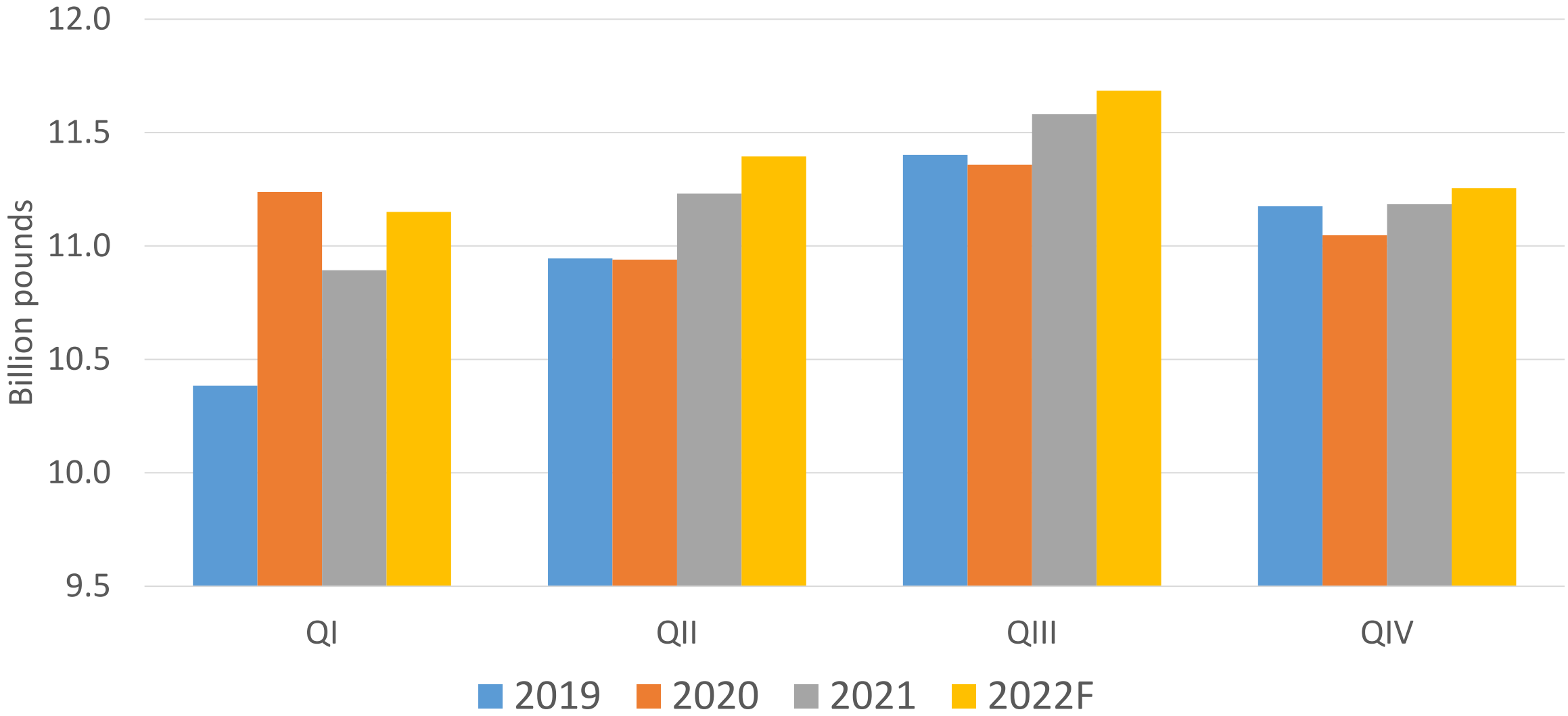
Greater Volatility in Wholesale Beef and Pork Prices than Retail

Wholesale and Retail Prices, Indexed (2020 Jan = 1)



Source: Wholesale prices from Agricultural Marketing Service: *National Daily Boxed Beef Cutout And Boxed Beef Cuts (Afternoon)*, *National Daily Pork Report FOB Plant (Afternoon)*. Retail prices from *Choice beef values, pork values*, ERS.

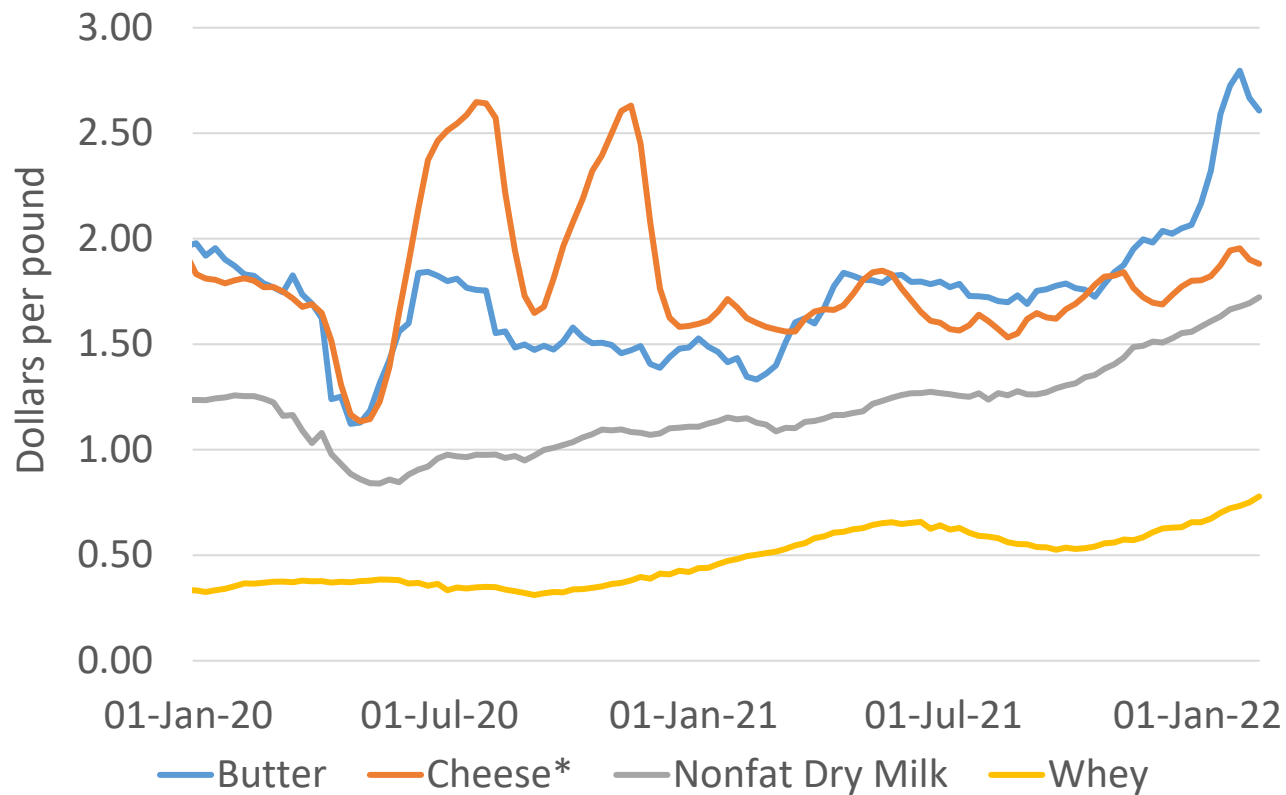
Broiler Meat Expansion will be Modest



Source: USDA February WASDE

Dairy Product Prices Continue to Rise

National Prices of Dairy Products



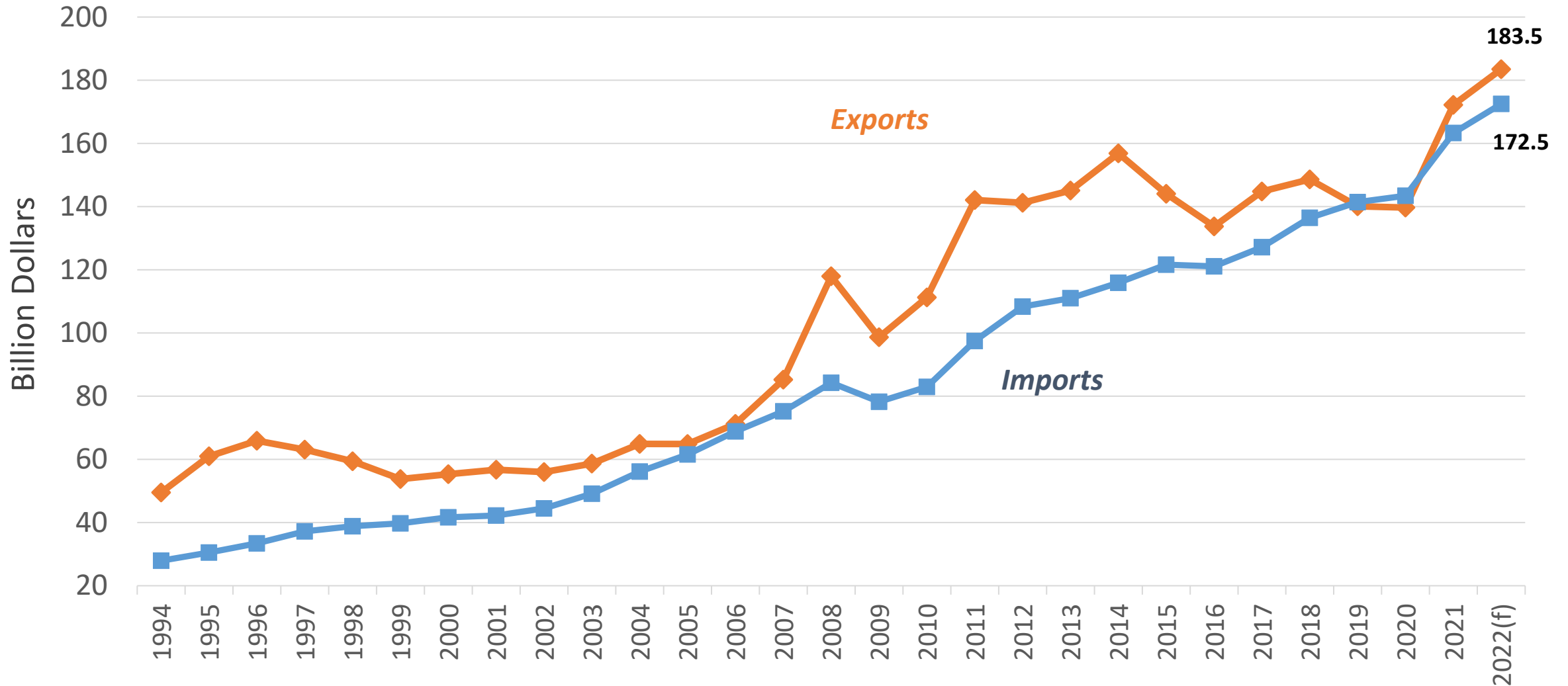
*Weighted Average Blocks and Barrels

	2020	2021	2022F
Butter	1.5808	1.7325	2.390
Cheese	1.9236	1.6755	1.900
Nonfat Dry Milk	1.0417	1.2693	1.665
Whey	0.3621	0.5744	0.705
All Milk	18.24	18.69	23.55

Source: OCE-WAOB

U.S. Agricultural Trade Situation

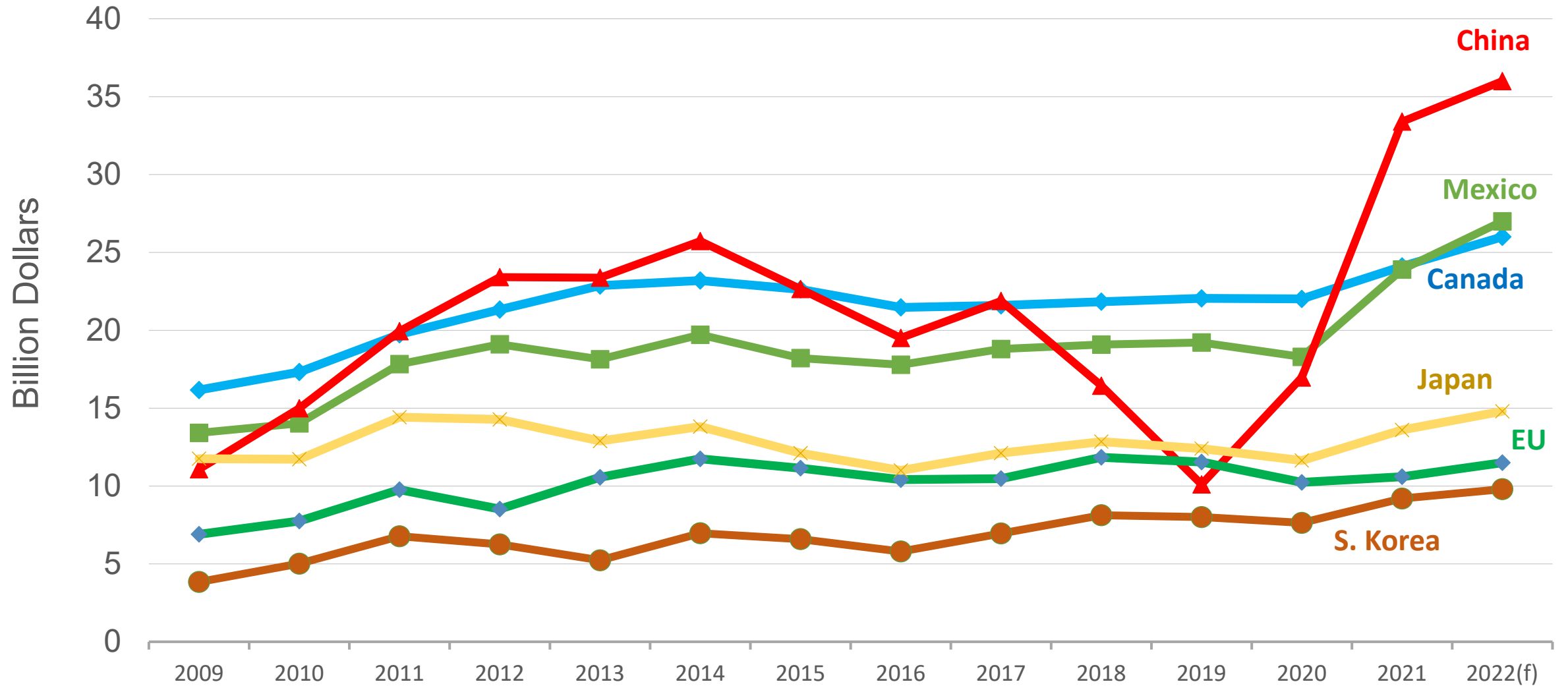
Exports at record \$183.5 Billion; Imports at record \$172.5 Billion



Source: USDA FAS/ERS February Quarterly Agricultural Export Forecast

Fiscal Year

Top U.S. Ag Export Markets

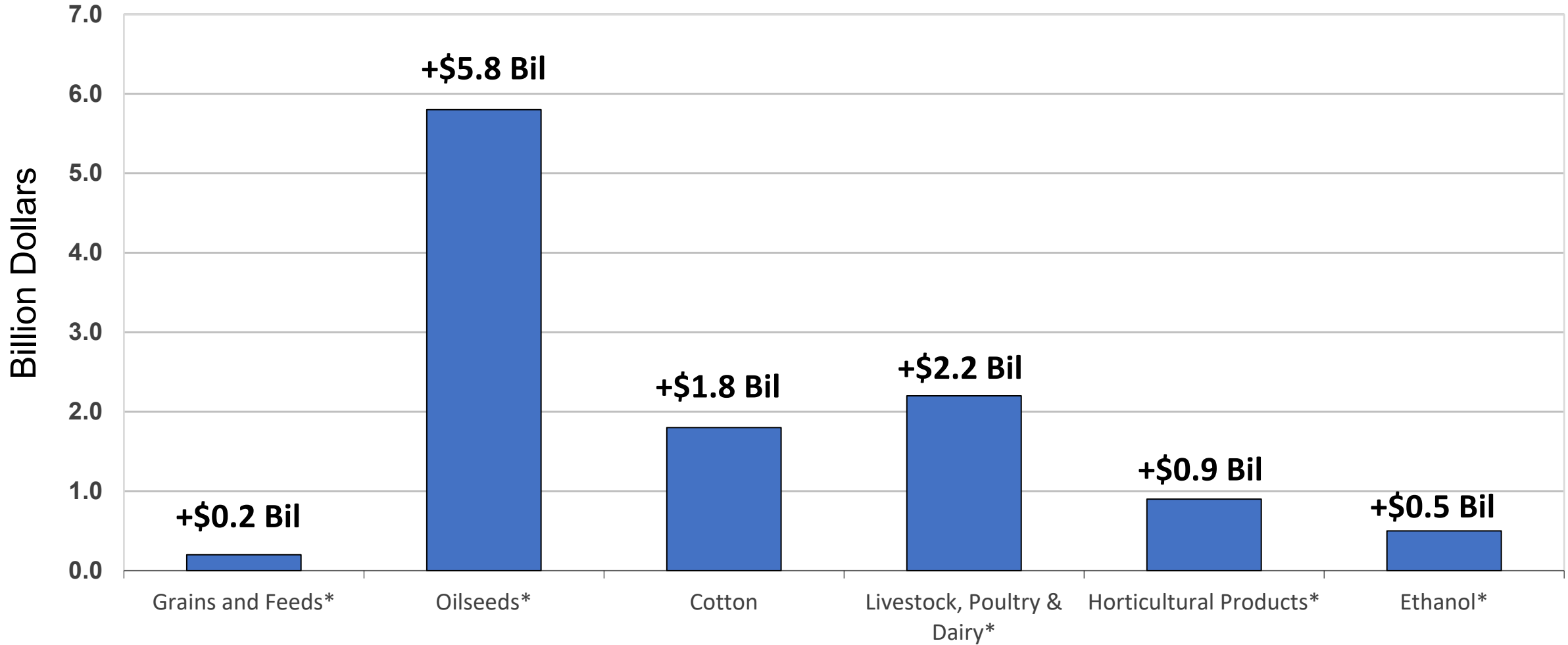


Source: USDA FAS/ERS February Quarterly Agricultural Export Forecast

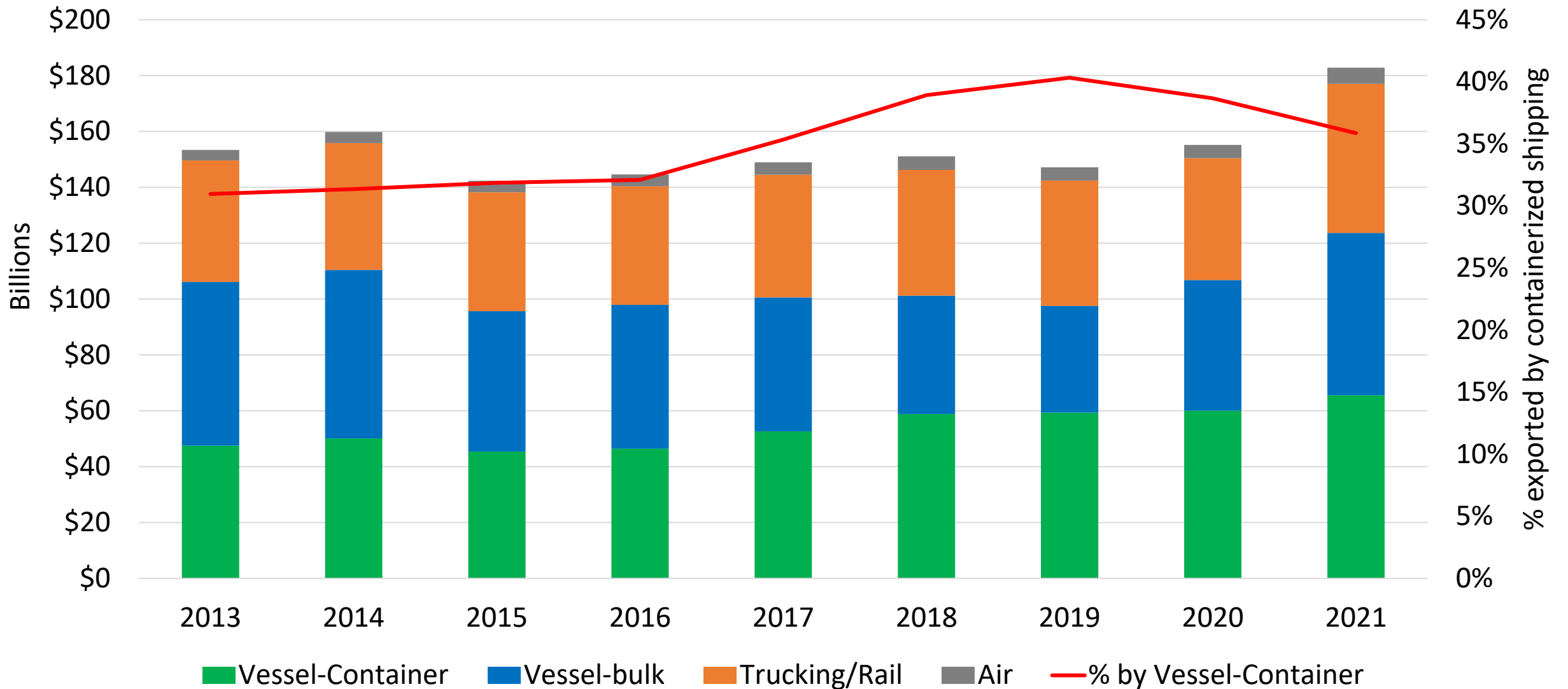
Fiscal Year

FY2022 Export Forecast vs. FY2021

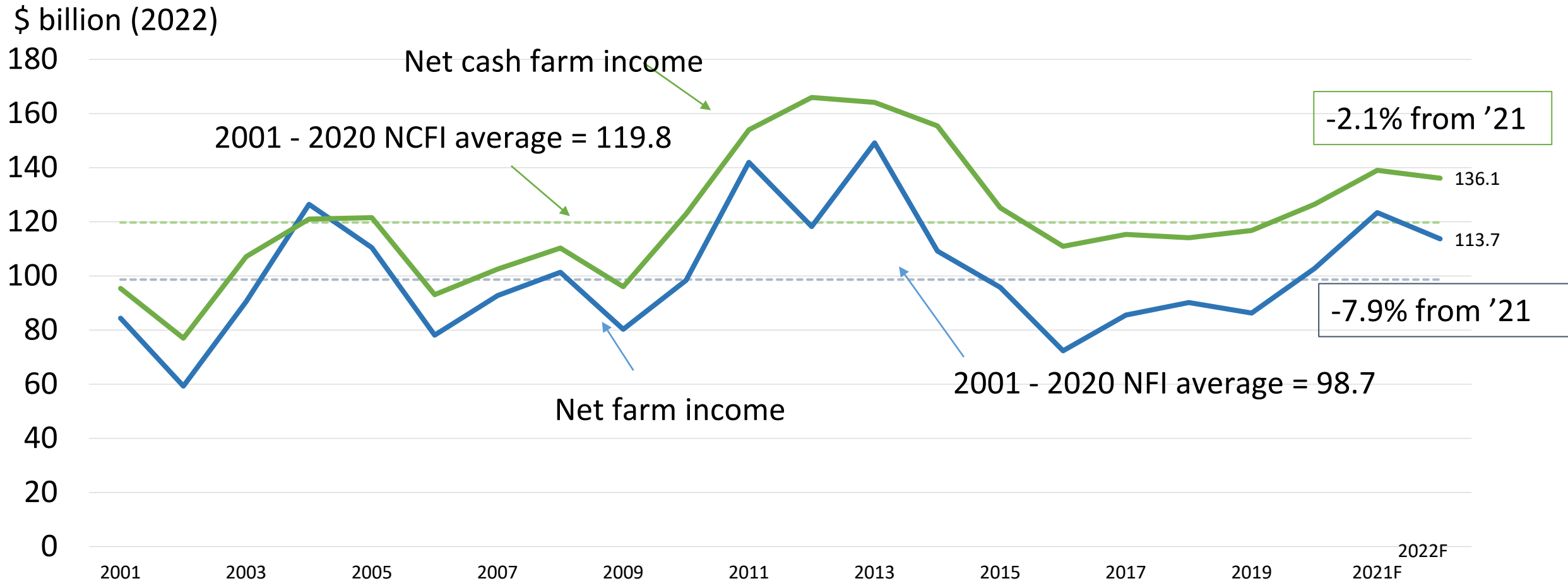
Soybeans lead export values higher on higher prices, not volumes



Value of U.S. Agricultural Exports by Mode

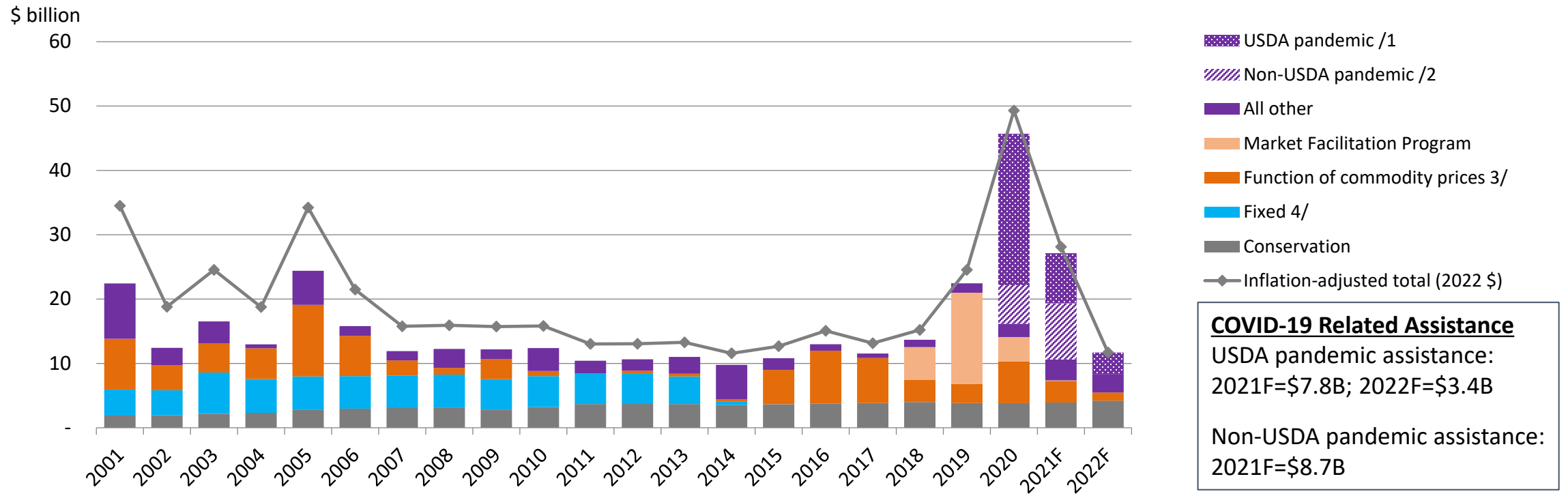


Farm Sector Profits Expected to Remain Above 20-year Average in 2021-22



F= Forecast. Values are adjusted for inflation using the U.S. Bureau of Economic Analysis Gross Domestic Product Price Index (BEA API series code: A191RG) rebased to 2022 by USDA, Economic Research Service.
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics
Data as of February 4, 2022.

Total Direct Government Payments to Farmers Expected to Decline in 2022



F= Forecast.

1/ Includes payments from the Coronavirus Food Assistance Program and other USDA pandemic assistance for producers.

2/ Includes loans from the Small Business Administration's Paycheck Protection Program.

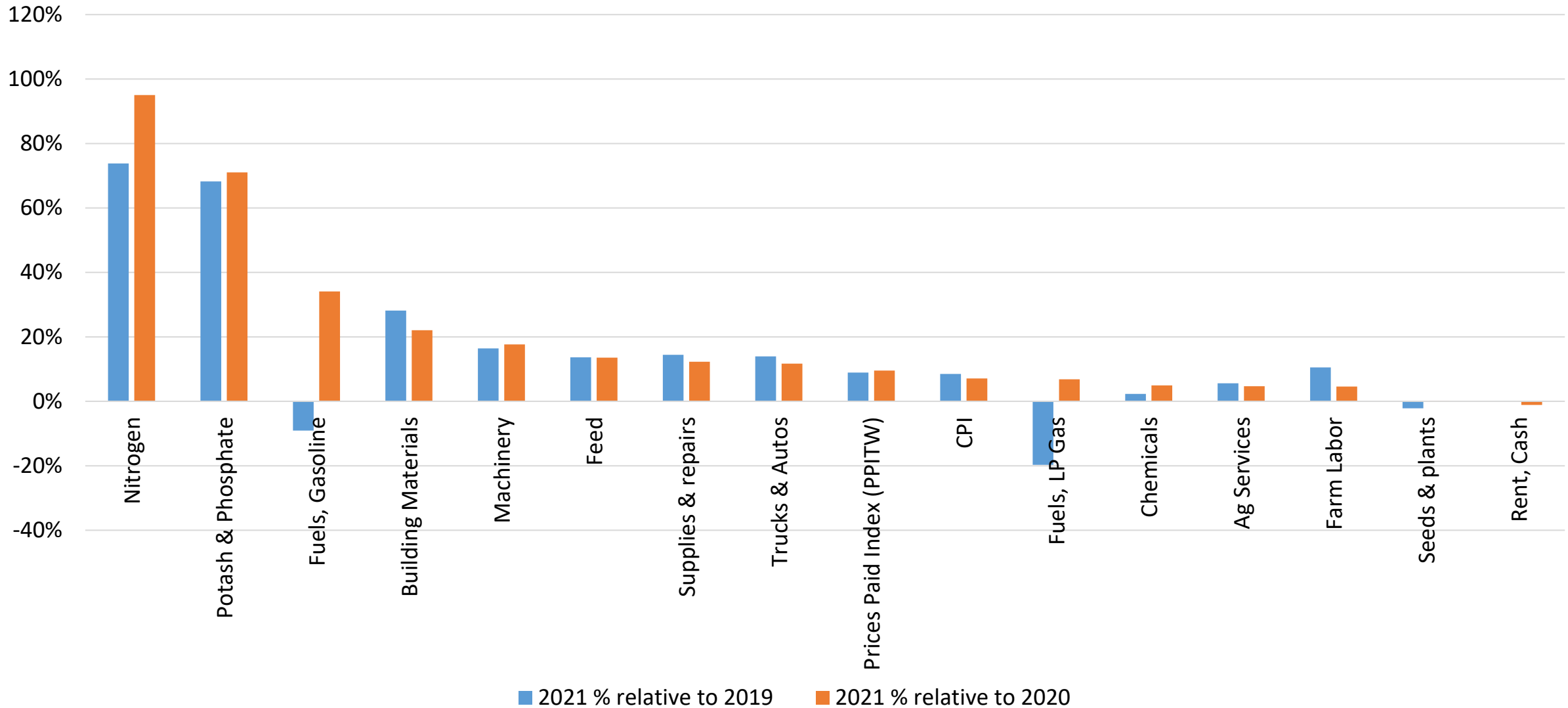
3/ Includes counter-cyclical payments, average crop revenue election (ACRE) payments, loan deficiency payments, marketing loan gains, certificate exchange gains, Price Loss Coverage (PLC), Agriculture Risk Coverage (ARC), and dairy payments in which commodity payment rates vary with market prices.

4/ Fixed payments are through 2013 and cotton transition payments in 2014 whereby payment rates are fixed by legislation.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics (using data from FSA, NRCS, CCC, and SBA)

Data as of February 4, 2022.

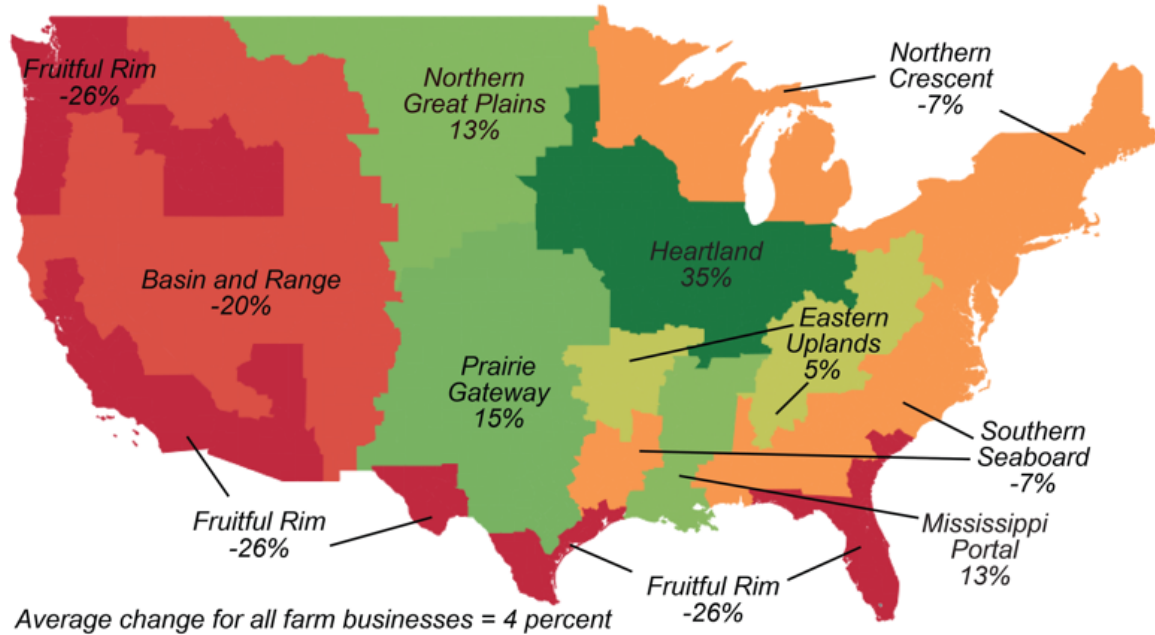
2021 Changes in Input Prices Paid by Farmers *relative to Dec 2019 and Dec 2020*



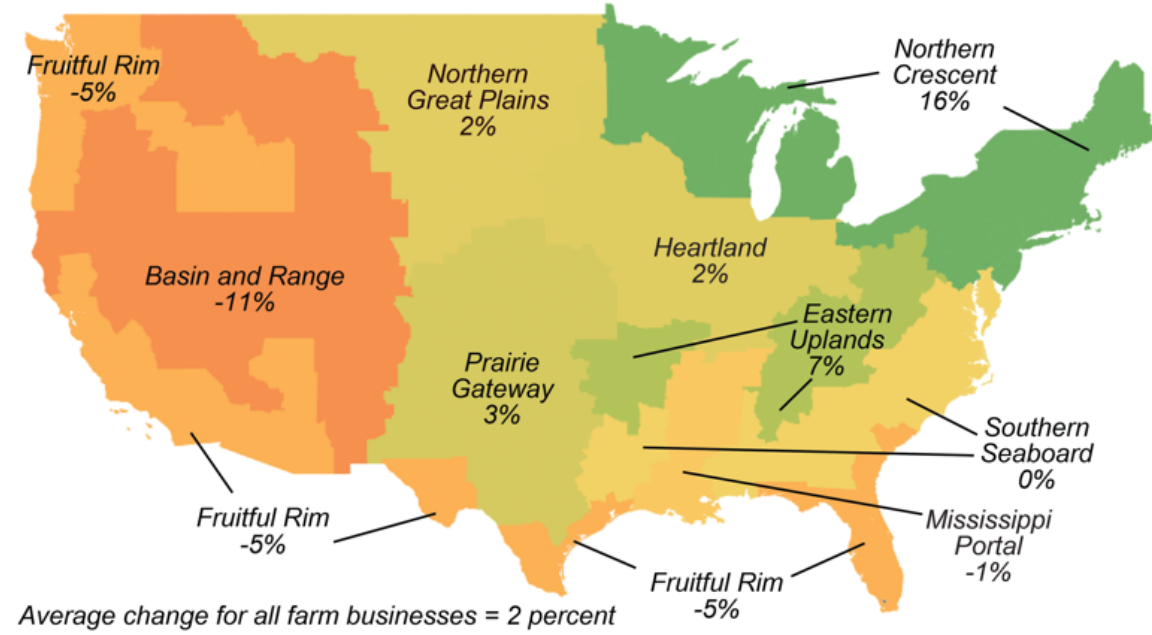
Source: USDA-NASS prices paid

Changes in Net Cash Income for Farm Businesses Vary Significantly by Region

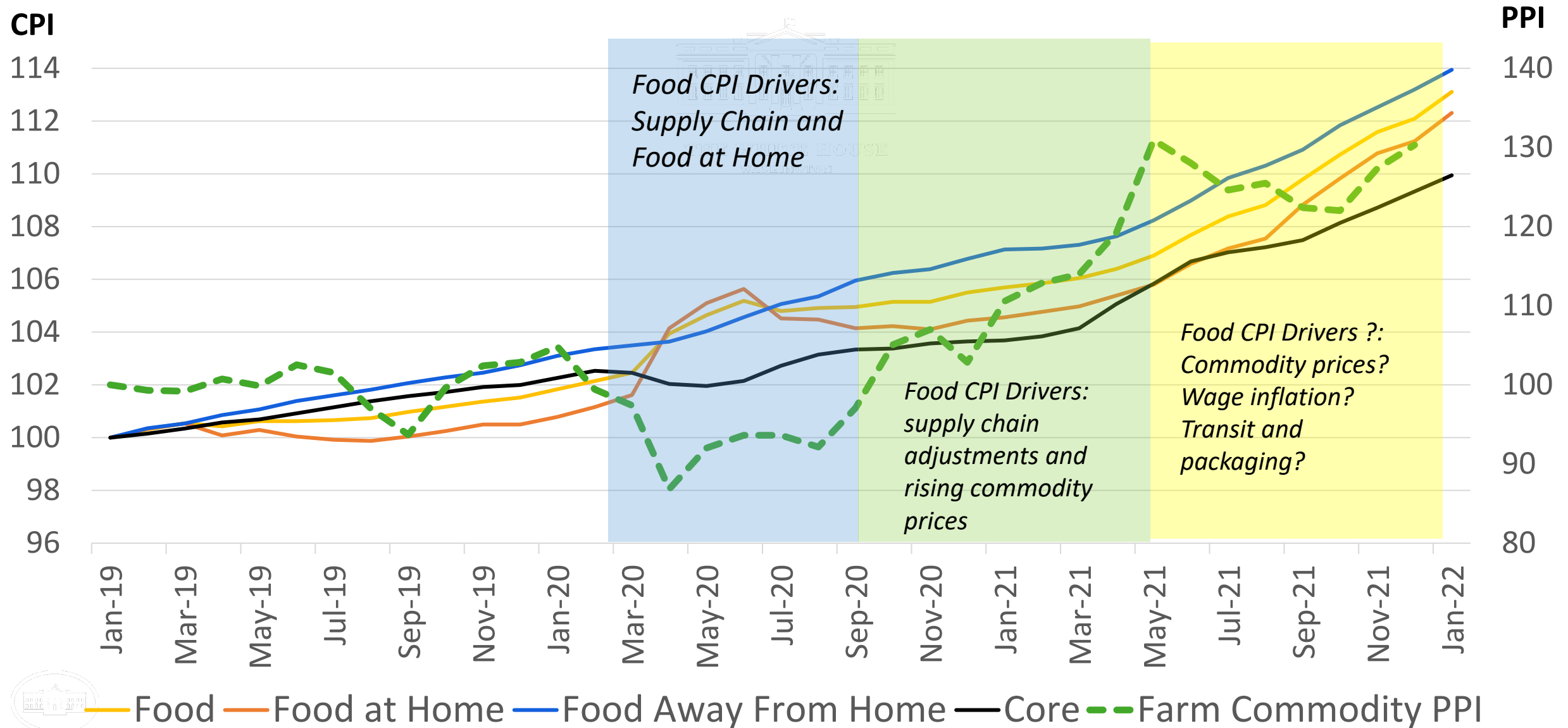
Change 2020–2021F



Change 2021F–2022F

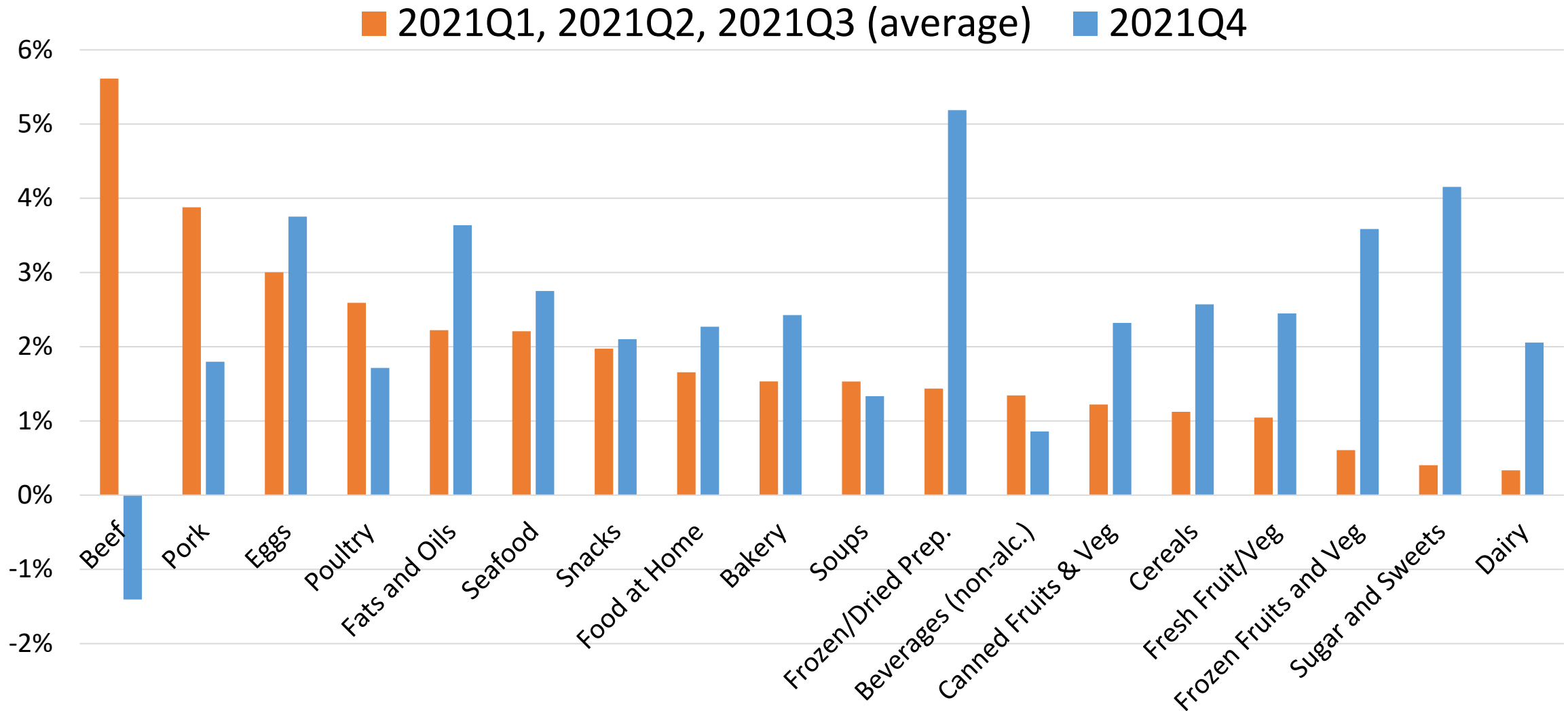


Supply Chain Disruptions, Rising Commodity Prices, General CPI?



Inflation Broadening Out

2021 Food Retail Price Quarterly Changes: first 3 quarters vs last quarter



Data: BLS

Outlook is Positive - Uncertainties Remain

- Prospects for crops supported by solid domestic demand and continued strong exports
- Livestock outlook supported by continued strong domestic demand and supportive exports
- Farm income forecast to fall as higher crop and livestock receipts do not offset rising input costs and lower government payments, but remains above average.
- Supply chain disruptions, labor availability and logistics/trucking remain important factors
- Trade with China important for ag markets
- Improved outlook for milk producers on strong product prices
- Russian incursions in Ukraine's Luhansk and Donetsk Oblasts, or beyond, remain a key uncertainty
- ***Weather will have the last say on supplies***



2022 Agricultural Outlook

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Crop Progress

ISSN: 1948-2027
Revised September 16, 2019, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA)

Corn Drought - Selected States

(These 10 States planted 62% of the 2018 corn acreage)

State	Week ending			2018-2019 Average
	September 16, 2019	September 9, 2019	September 15, 2019	
California	87	80	84	87
Illinois	100	99	99	100
Indiana	99	99	99	99
Iowa	99	99	99	99
Kentucky	99	99	99	99
Michigan	99	99	99	99
Minnesota	100	99	99	100
Missouri	100	99	99	100
Nebraska	100	99	99	100
North Carolina	99	99	99	99
Ohio	99	99	99	99
Pennsylvania	99	99	99	99
South Dakota	100	99	99	100
Tennessee	97	99	99	99
Texas	97	99	99	99
Wisconsin	99	99	99	99
10 States	99	99	99	99

Corn Drought - Selected States

(These 10 States planted 62% of the 2018 corn acreage)

State	Week ending			2018-2019 Average
	September 16, 2019	September 9, 2019	September 15, 2019	
California	84	84	81	80
Illinois	99	99	99	99
Indiana	92	93	93	92
Iowa	99	99	99	99
Kentucky	93	93	93	93
Michigan	99	99	99	99
Minnesota	79	79	81	77
Missouri	99	99	99	99
Nebraska	99	99	99	99
North Carolina	91	93	93	93
Ohio	99	99	99	99
Pennsylvania	77	80	74	76
South Dakota	99	99	99	99
Tennessee	98	94	97	97
Texas	96	91	94	93
Wisconsin	80	81	84	87
10 States	92	93	89	87

World Agricultural Supply and Demand Estimates

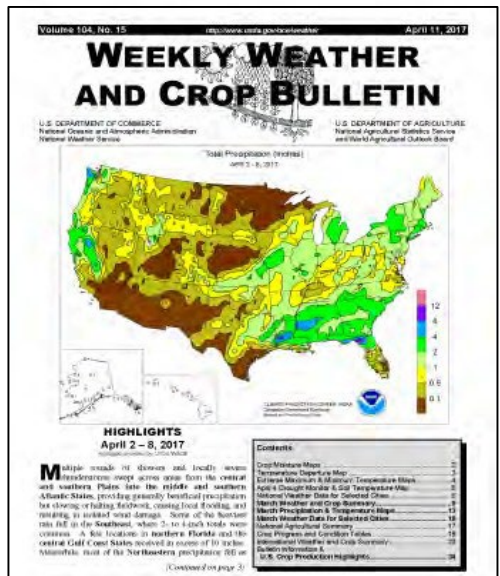
ISSN: 1944-6983
Office of the Chief Economist
Agricultural Marketing Service
Economic Research Service
Foreign Agricultural Service

WHEAT: U.S. wheat ending stocks for 2019/20 are raised 30 million bushels on lower feed and residual use which more than offsets a slight import reduction. At 1,156 million bushels, ending stocks are projected to reach a near 30-year high. Feed and residual use is lowered 30 million bushels to 190 million which reflects lower-than-expected disappearance for the December-February and September-November quarters, as indicated by March 1 and revised December 1 stocks from the March 31 Grain Stocks report. The import change is based on the pace to date with reductions for soft red winter and durum.

Global 2019/20 wheat supplies are raised 1.7 million tons due to higher projected beginning stocks and a 0.3-million-ton increase in production. The change to beginning stocks stems from a 1.4-million-ton reduction in 2018/19 domestic consumption, primarily in the EU. World exports are lowered 0.3 million tons led by 0.5-million-ton decreases each for Australia, Canada, Kazakhstan, and Russia. Mostly offsetting are higher projected exports for the EU and Ukraine. Total global consumption for 2019/20 is lowered 0.6 million tons to 740.8 million with a 0.6-million-ton decrease in the United States, more than offsetting a small net increase for foreign countries. With supplies rising and use declining, global ending stocks are raised 2.3 million tons to 252.3 million.

COARSE GRAINS: This month's 2019/20 U.S. corn outlook is for increased corn used to produce ethanol, reduced feed and residual use and unchanged ending stocks. Corn used to produce ethanol is raised 50 million bushels to 5,850 million based on the most recent data from the Grain Cushing and Co-Products Production report which indicates the amount of corn used to produce ethanol to be record high during December-February. The pace of weekly ethanol production, using March as indicated by Energy Information Administration data, has also been above expectations. Offsetting is a 50 million bushel reduction in projected feed and residual use to 5,200 million bushels based on consumption indicated during the first half of the marketing year in the March 31 Grain Stocks. With offsetting usage changes, ending stocks are unchanged from last month. The season-average corn price received by producers is unchanged at the midpoint with the range narrowed to \$3.25 to \$3.56 per bushel.

Global coarse grain production for 2019/20 is forecast 4.6 million tons higher than last month to 3,246.1 million. This month's foreign coarse grain outlook is for increased production, consumption, trade, and stocks relative to last month. Brazil corn



USDA Agricultural Projections to 2031

USDA
United States Department of Agriculture
Office of the Chief Economist

Interagency Agricultural Projections Committee

World Agricultural Outlook Board
Economic Research Service
Farm Production and Conservation Business Center
Foreign Agricultural Service
Agricultural Marketing Service
Office of the Chief Economist
Office of Budget and Program Analysis
Risk Management Agency
Natural Resources Conservation Service
National Institute of Food and Agriculture

Long-Term Projections Report
OCE-2022-1
February 2022

USDA Long-Term Projections, February 2022