

Utah Agriculture Outlook Stakeholder Webinar

Monday December 19, 2022

11:30 am to 1 pm MT

Zoom Registration: https://usu-edu.zoom.us/meeting/register/tZ0rceqqpistGdJhXLPngQ3AJr_BydkDwtAW

After registering, you will receive a confirmation email containing information about joining the meeting.

Agenda

1. Volatility in Agricultural Markets: Impacts and Opportunities

Malieka Bordigioni, Research Manager, FAPRI at the University of Nevada, Reno

2. Utah Urban and Small Farms Conference Update

Ruby Ward, Extension Entrepreneurship & Taxation Specialist, Utah State University

3. Inflation in 2022: Impacts on Consumer and Input Pricing

Kynda Curtis, Extension Agriculture & Food Marketing Specialist, Utah State University

Description

This two-hour webinar hosted by USU Extension Economics will cover 2022 agricultural market volatility, including political and weather-related events, as well as impacts on western US commodity markets. An update on the upcoming Utah Urban and Small Farms conference will be provided. That event will be held in February 2023. Finally, we will discuss inflation in 2022 and its impacts both consumer and producer input pricing.

The agriculture outlook is targeted at agricultural stakeholders in Utah including, but not limited to, state and federal agency representatives, farmer and rancher groups, farm financial institutions, tribal government representatives, and Extension personnel. There will be time after each presentation for questions and discussion.

Materials from previous Agriculture Outlook webinars can be found at:

<https://extension.usu.edu/apec/ag-outlook-webinar>



Utah Agriculture Outlook Stakeholder Webinar

11:30am to 1pm
USU Extension Economics

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Agenda – December 19, 2022

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 - Malieka Bordigioni, Research Manager, FAPRI at the University of Nevada, Reno
- Utah Urban and Small Farms Conference Update
 - Ruby Ward, Extension Entrepreneurship & Taxation Specialist, Utah State University
- Inflation in 2022: Impacts on Consumer and Input Pricing
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Program Evaluation Survey

Please respond to our Ag Outlook evaluation survey.... Thank you!

- https://usu.co1.qualtrics.com/jfe/form/SV_9Z8uLVv0qjJs9Js
- USU Extension Applied Economics website
 - <https://extension.usu.edu/apec/>

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Thank you!

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Volatility in Agricultural Markets: Impacts and Opportunities

December 19, 2022



University of Nevada, Reno

**University of Nevada, Reno
Nevada Agricultural Experiment Station
College of Agriculture, Biotechnology, and Natural Resources
Malieka Bordigioni
maliekal@unr.edu**

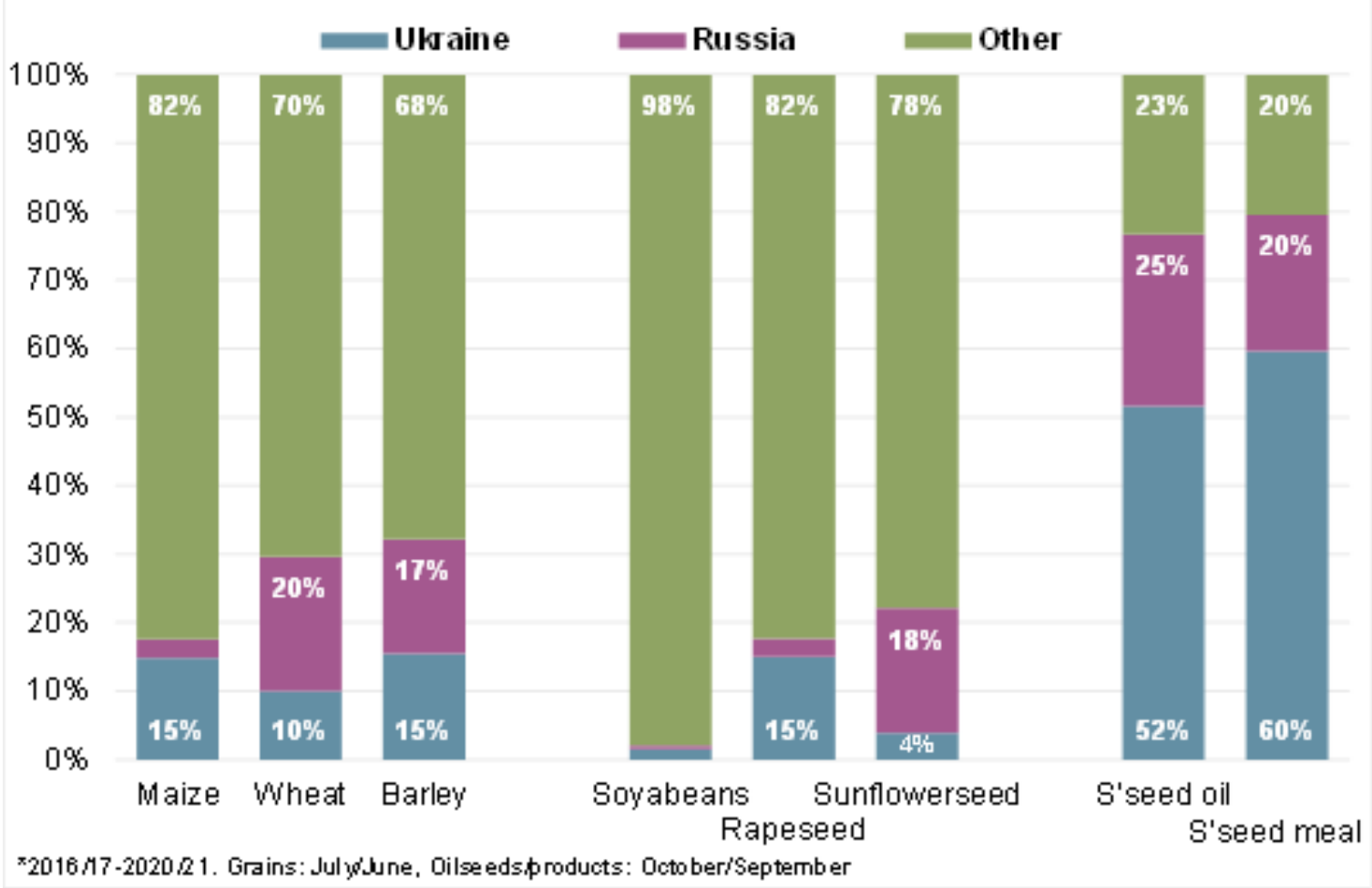
What's Going On in Ag?

- ▶ Global volatility, but some improvement
- ▶ War in Ukraine
 - ▶ Loss of lives, millions of refugees, and volatile geopolitics
 - ▶ Loss of global supply from Ukraine and Russia:
 - ▶ Wheat, corn, sunflower complex (food, feed, fuel, seed)
 - ▶ Crude oil, natural gas, fertilizer
- ▶ Adverse weather
 - ▶ Transportation
 - ▶ Production
- ▶ Protracted supply chain inefficiencies
 - ▶ Droughts and floods
 - ▶ Inflation
 - ▶ Still lingering.....COVID-19
 - ▶ Efficiency / resiliency trade-off
 - ▶ China zero-COVID policy

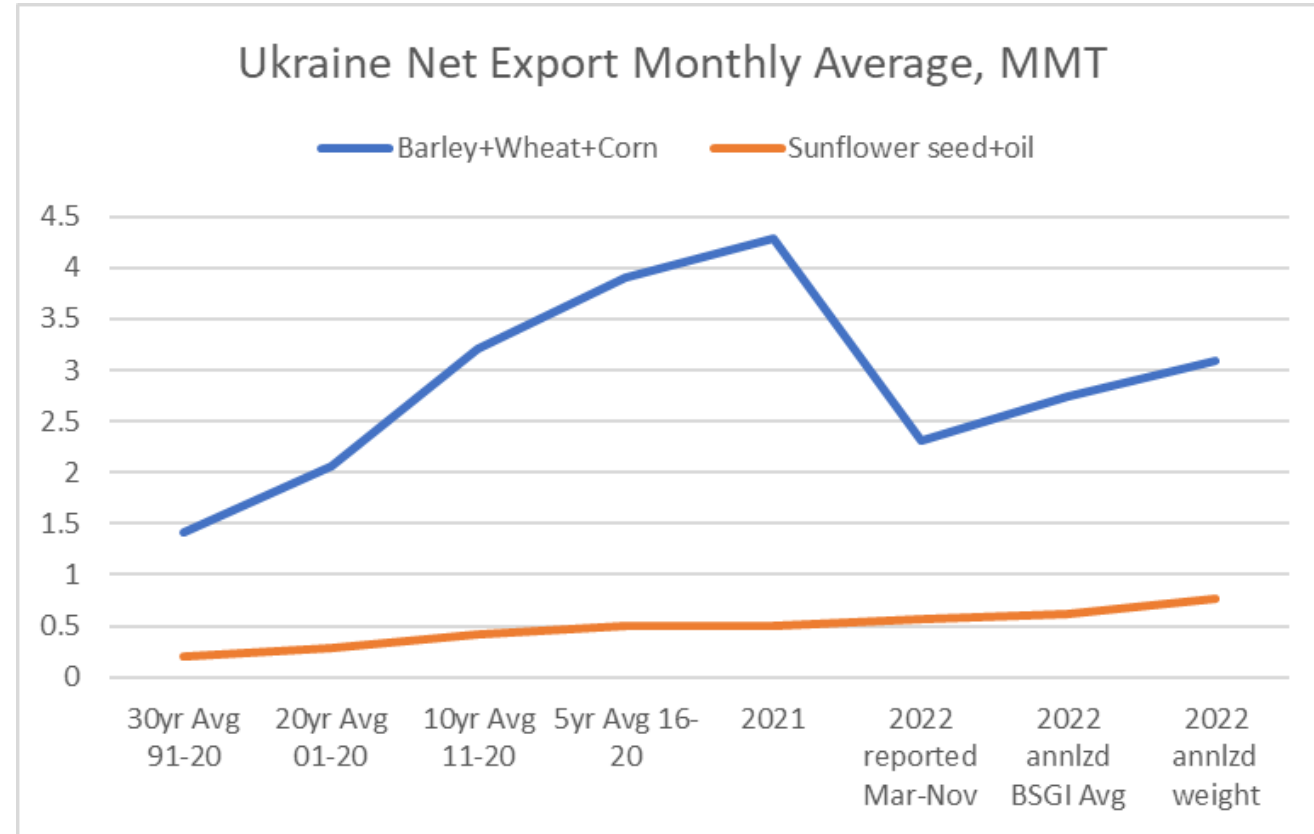
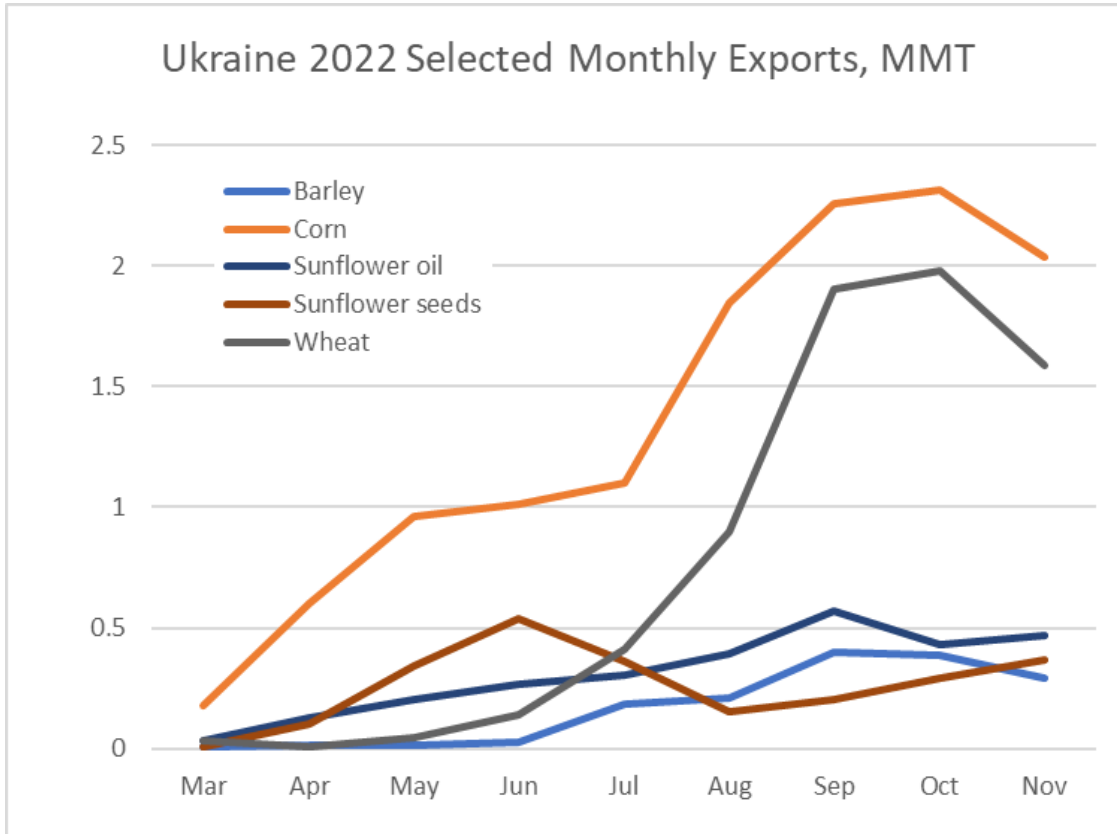
Ag Supply Challenges

- ▶ Restricted global ag commodity supply:
 - ▶ Volatility global, impacts/challenges vary by country
 - ▶ Ukraine 2022/23 production estimated down 35%-60%
 - ▶ Black Sea Grain Export Deal
 - ▶ Barley+Corn+Wheat+Sunseed+Sunoil 19 MMT shipped Aug22-Nov22
 - ▶ YOY decrease of ~30% or more
 - ▶ 120 day extension beginning late Nov22
 - ▶ High input costs
 - ▶ Energy cost as driver
 - ▶ Many off-peak, but still very high historically
 - ▶ Consecutive years of weather-related production volatility across the globe
 - ▶ Impacts to production
 - ▶ Impacts to transportation

Restricted Global Commodities – Ukraine and Russia



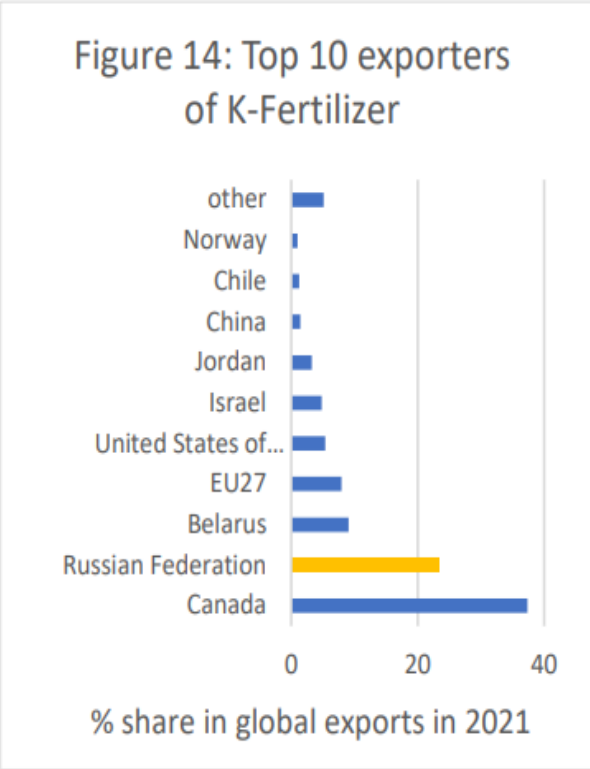
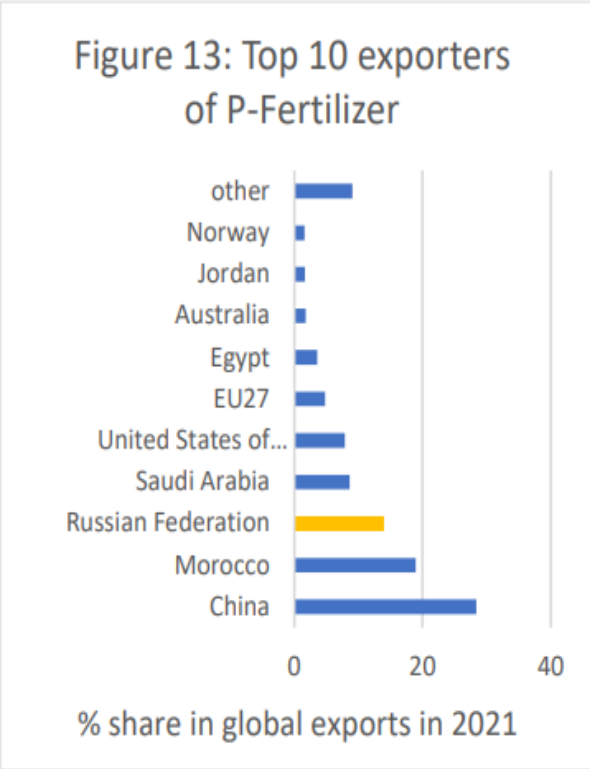
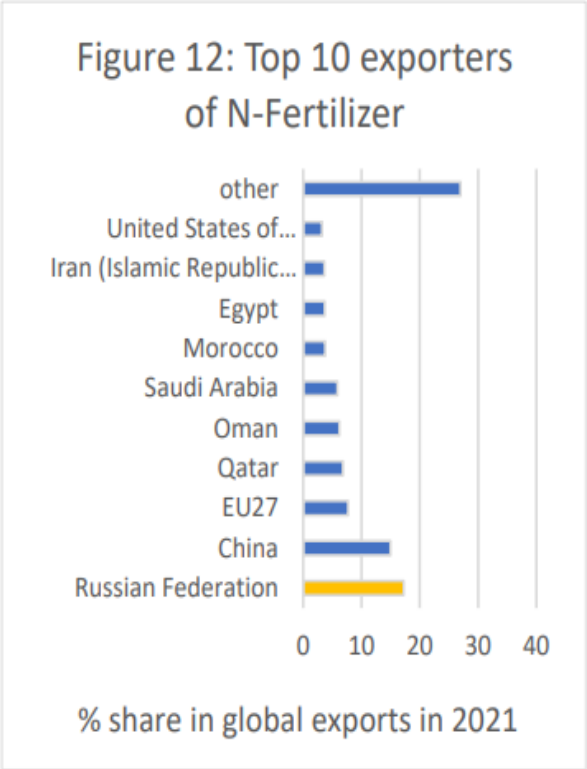
Black Sea Grain Initiative Has Aided Ukraine Exports During War, but Include Crops Produced Prior to Invasion



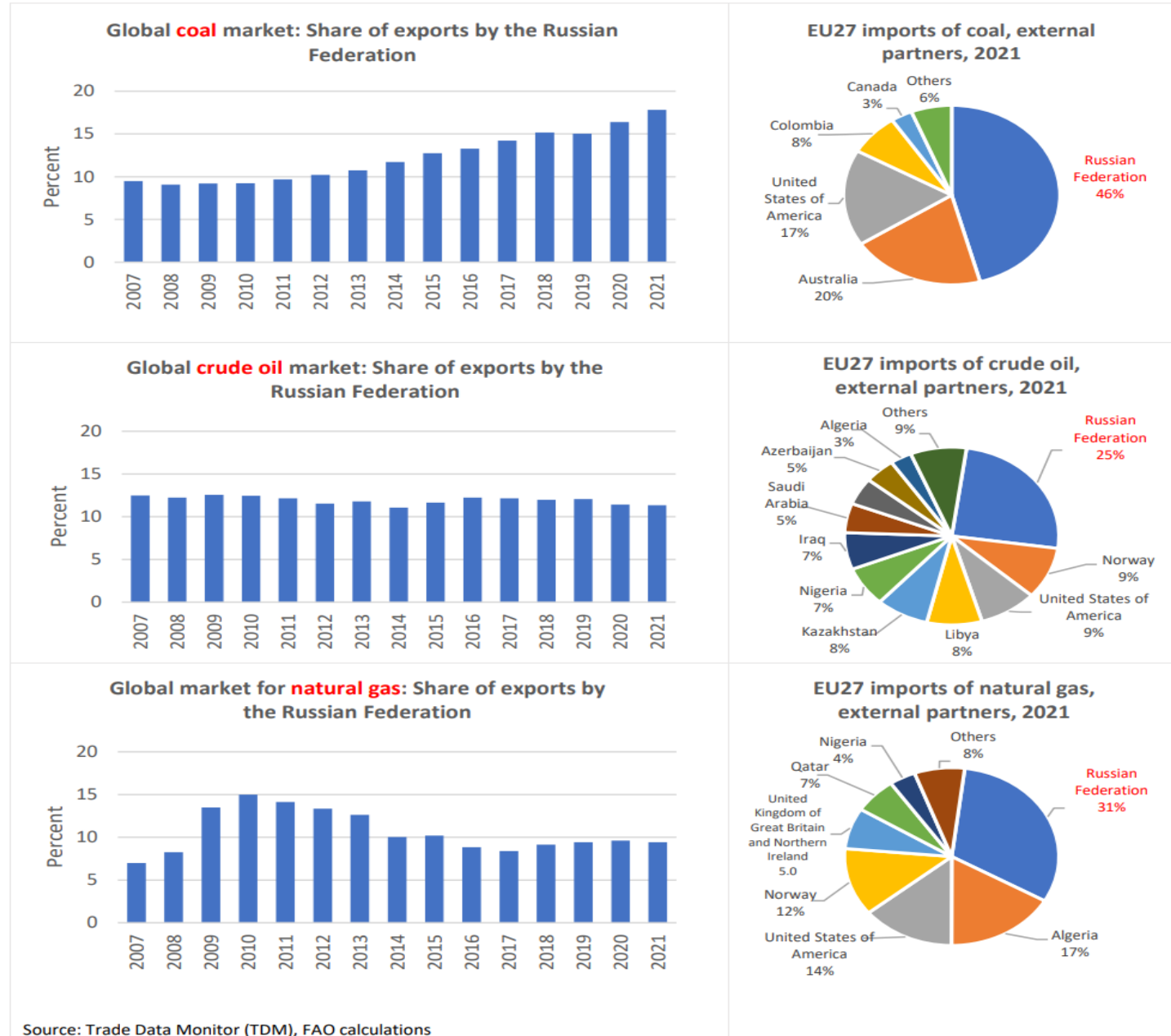
Source: <https://public.tableau.com/app/profile/fsuw/viz/ENGExportofAgriproducts/Dashboard1>

<https://apps.fas.usda.gov/psdonline/app/index.html#/app/home>

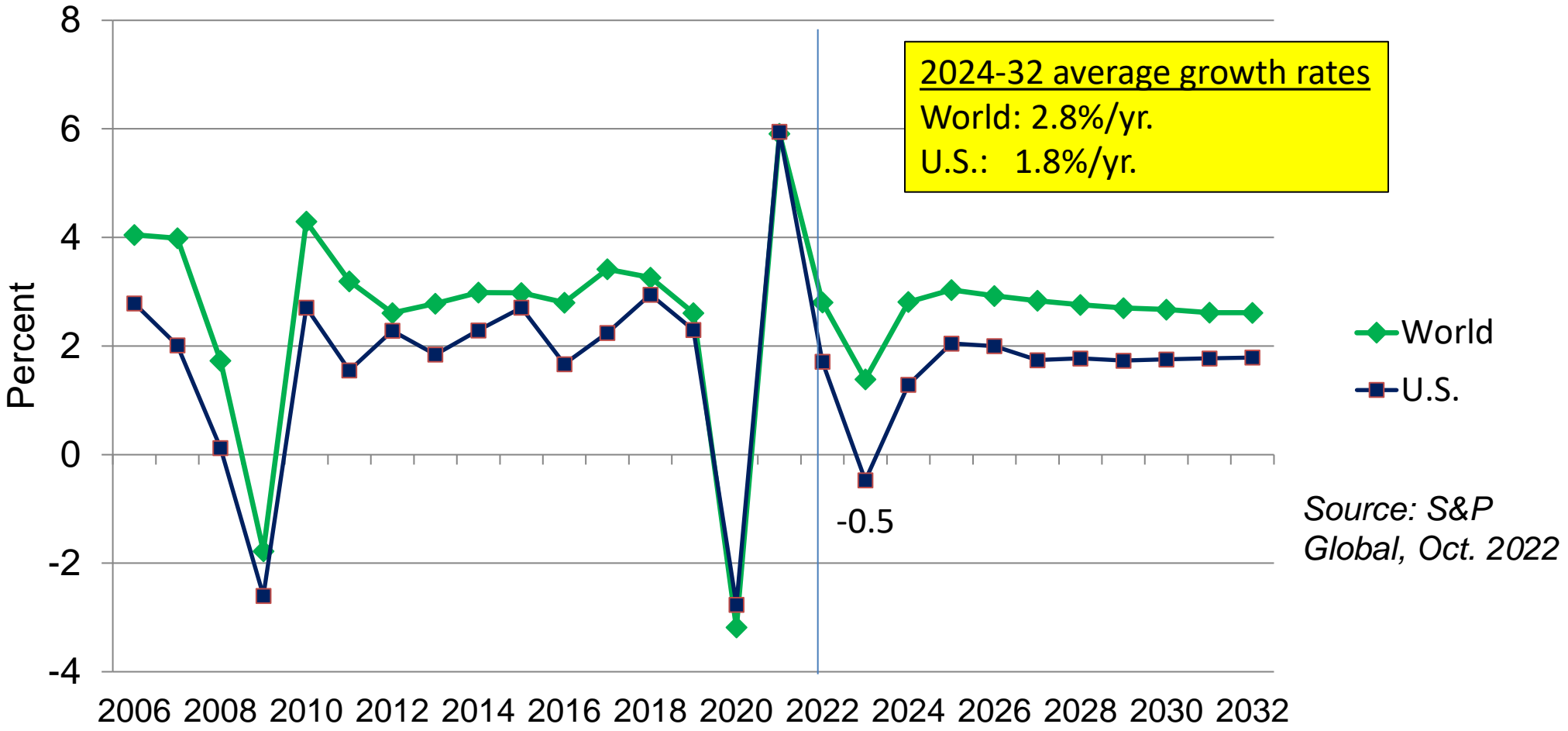
Russia is Major Global Exporter of Fertilizers



EU27 Dependence on Russian Energy Sources Will Have a Major Impact on Global Energy Prices



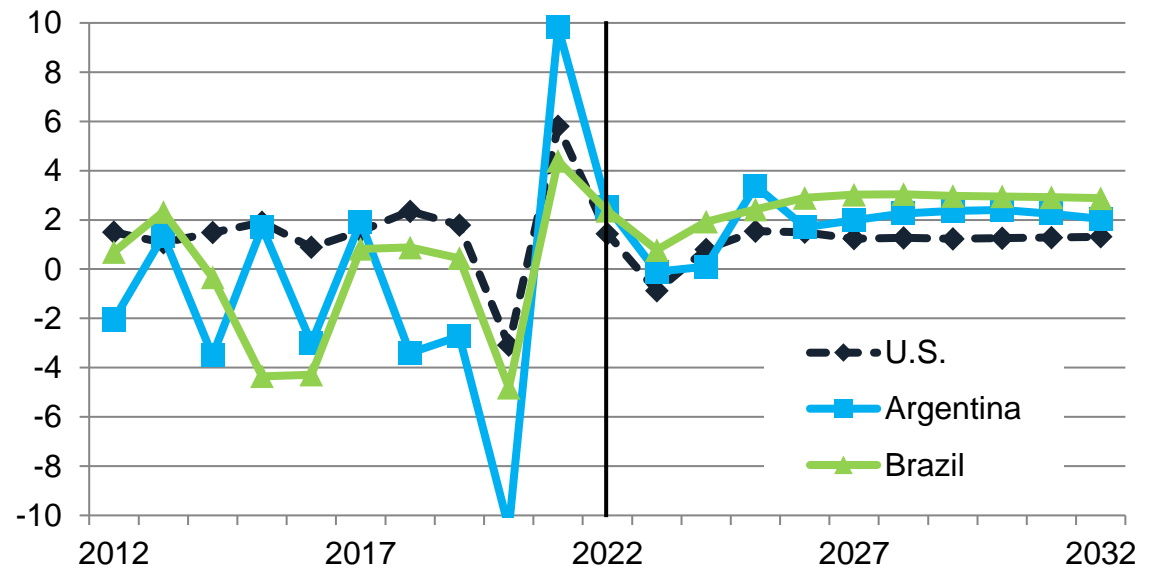
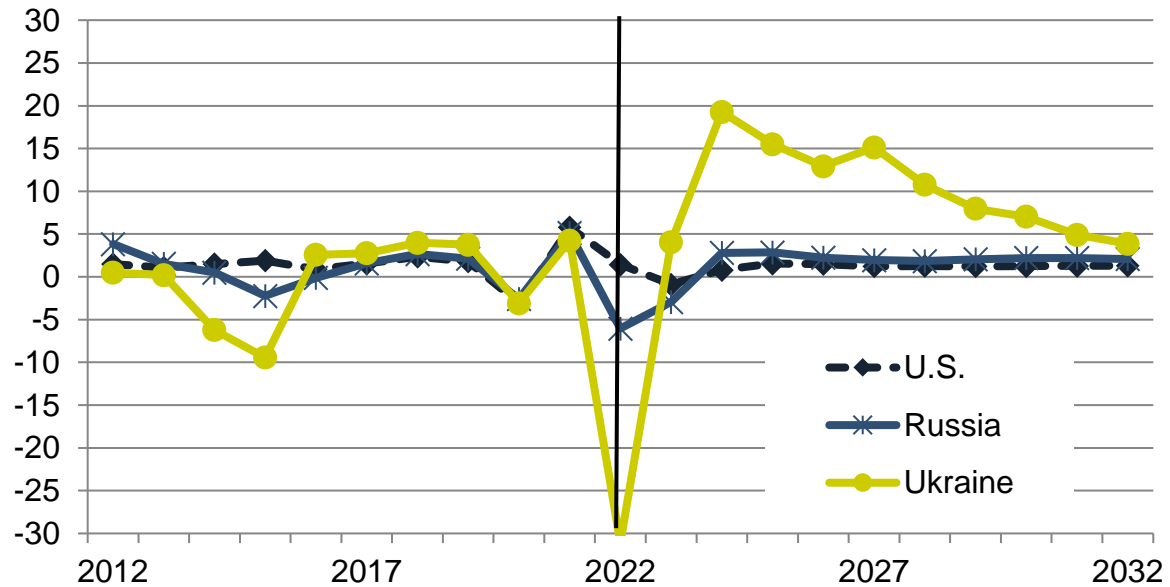
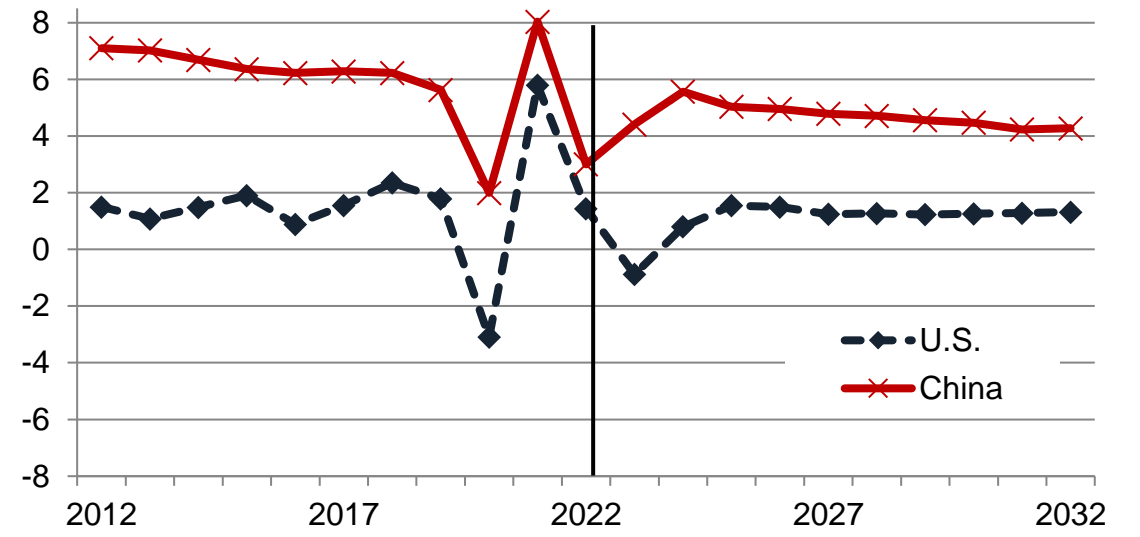
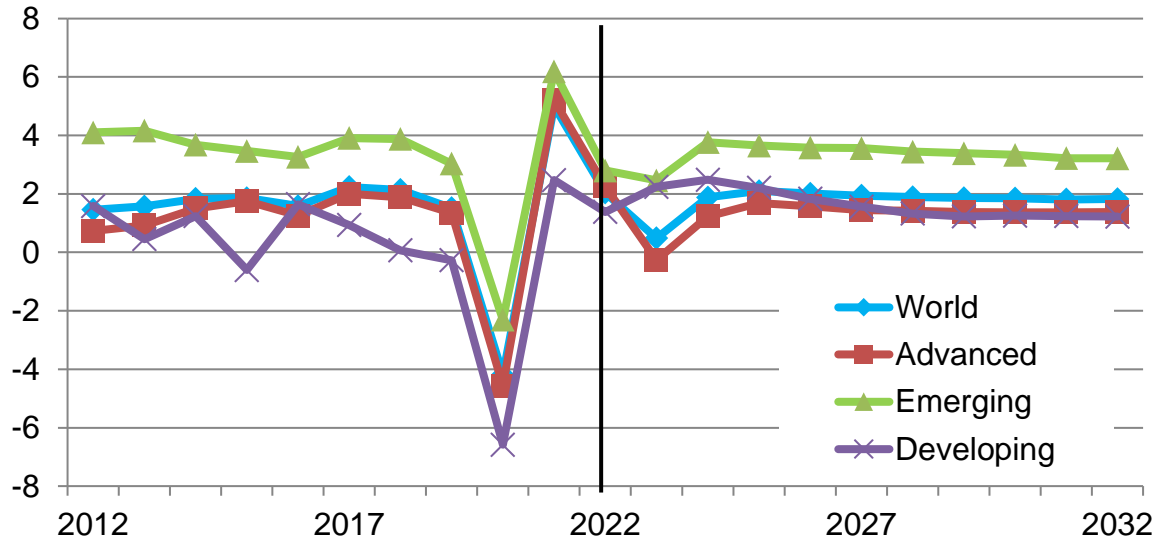
U.S. and world economic growth



Source: S&P
 Global, Oct. 2022

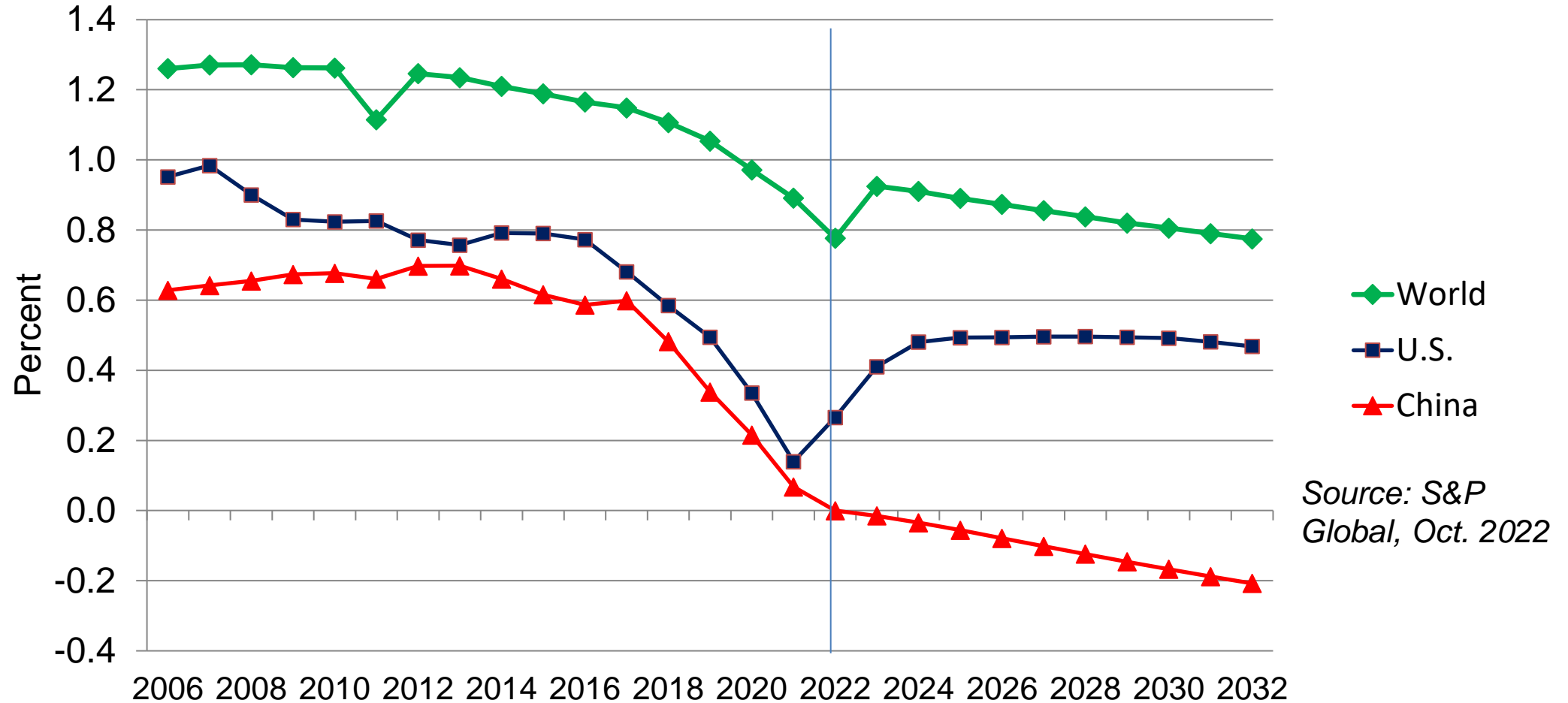
Near-term Recovery Trends Expected to Vary for Major Traders

Real GDP, % Change



Source: S&P Global Oct22

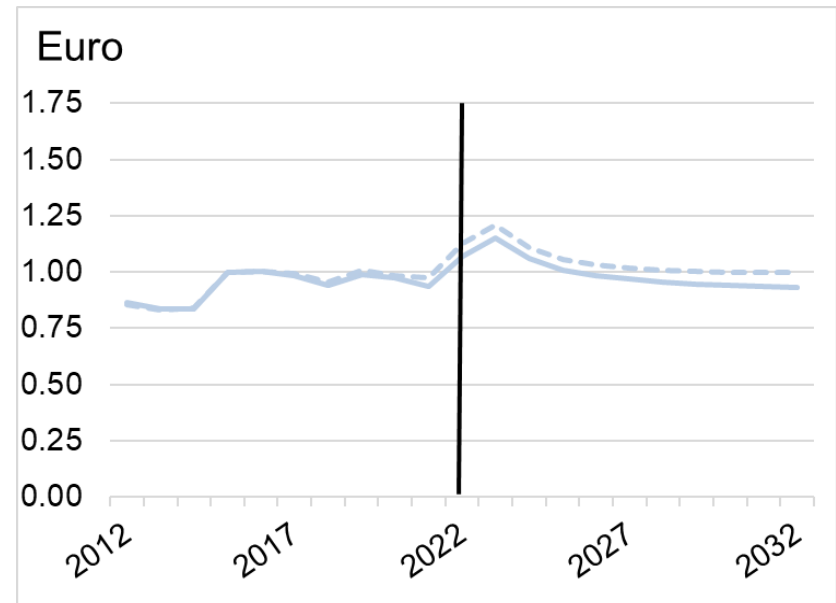
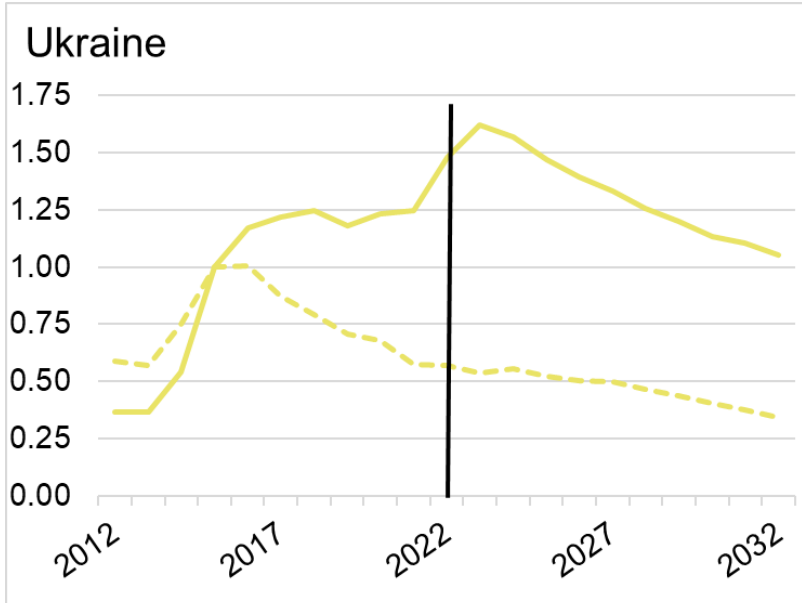
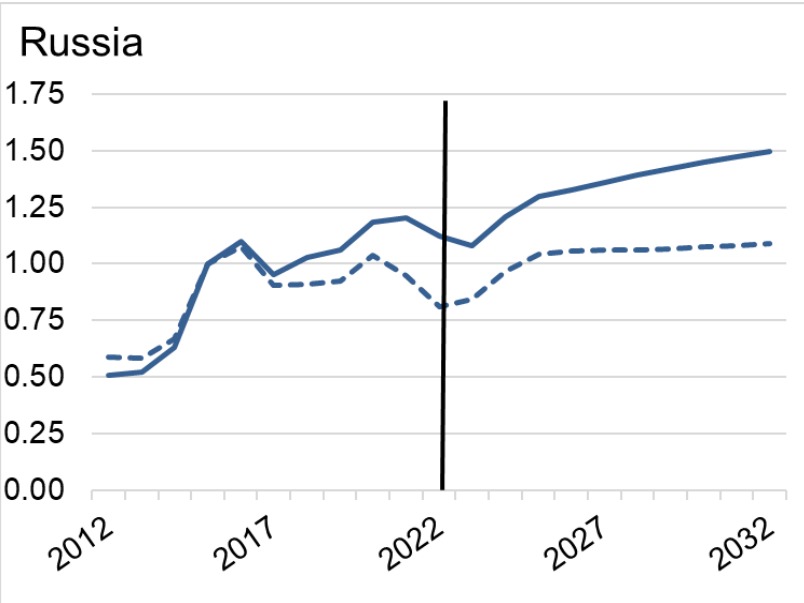
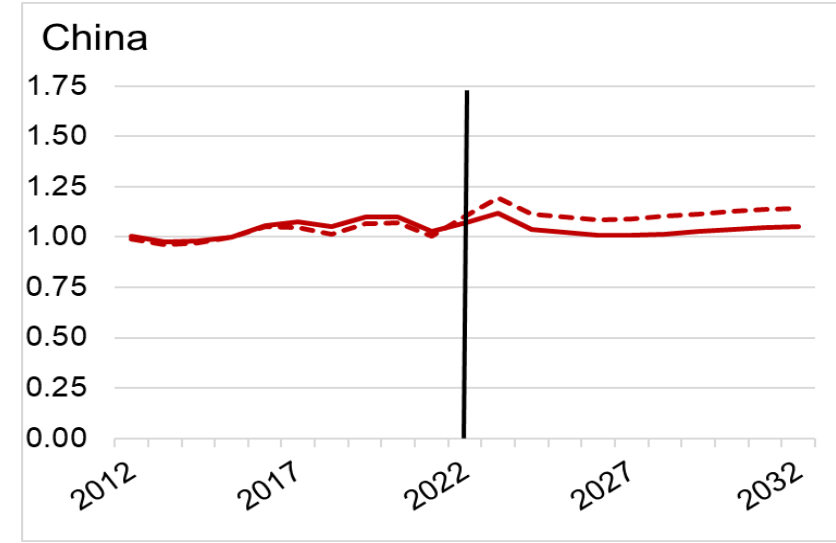
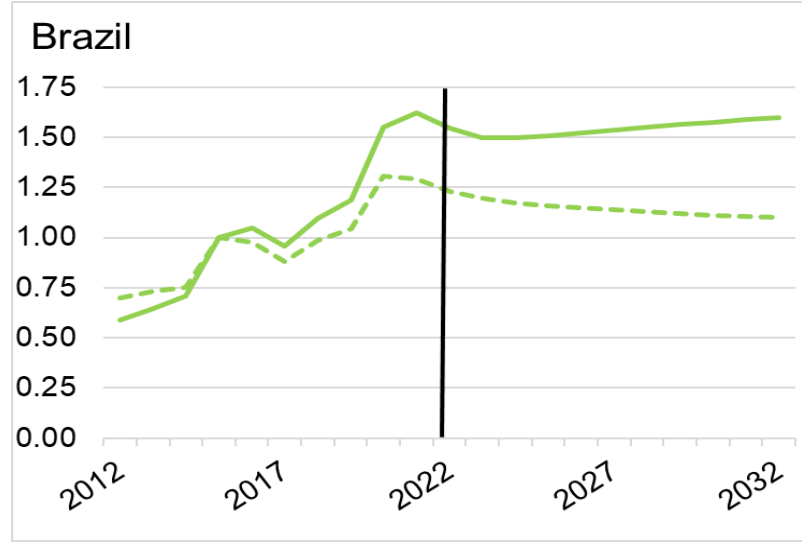
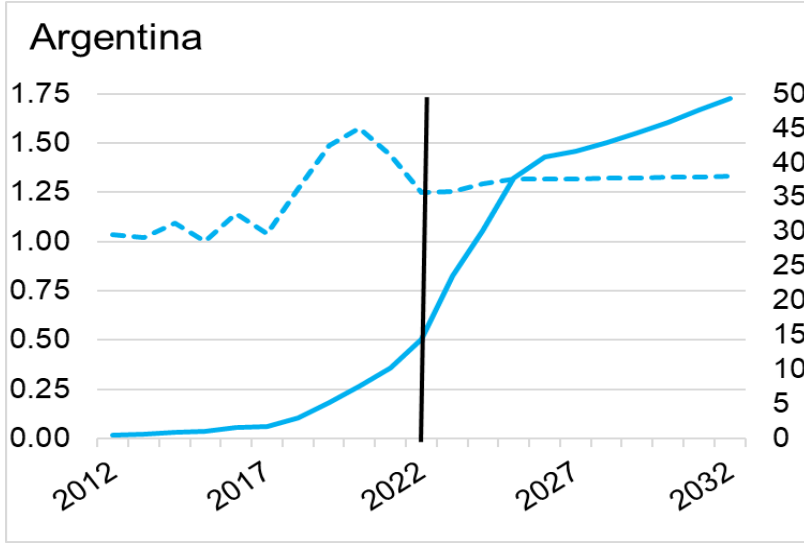
U.S., China and world population growth rates



Exchange Rates of Major Traders

Exchange Rate Index 2015=100; GDPD 2015=100;

Nominal—— Real-----

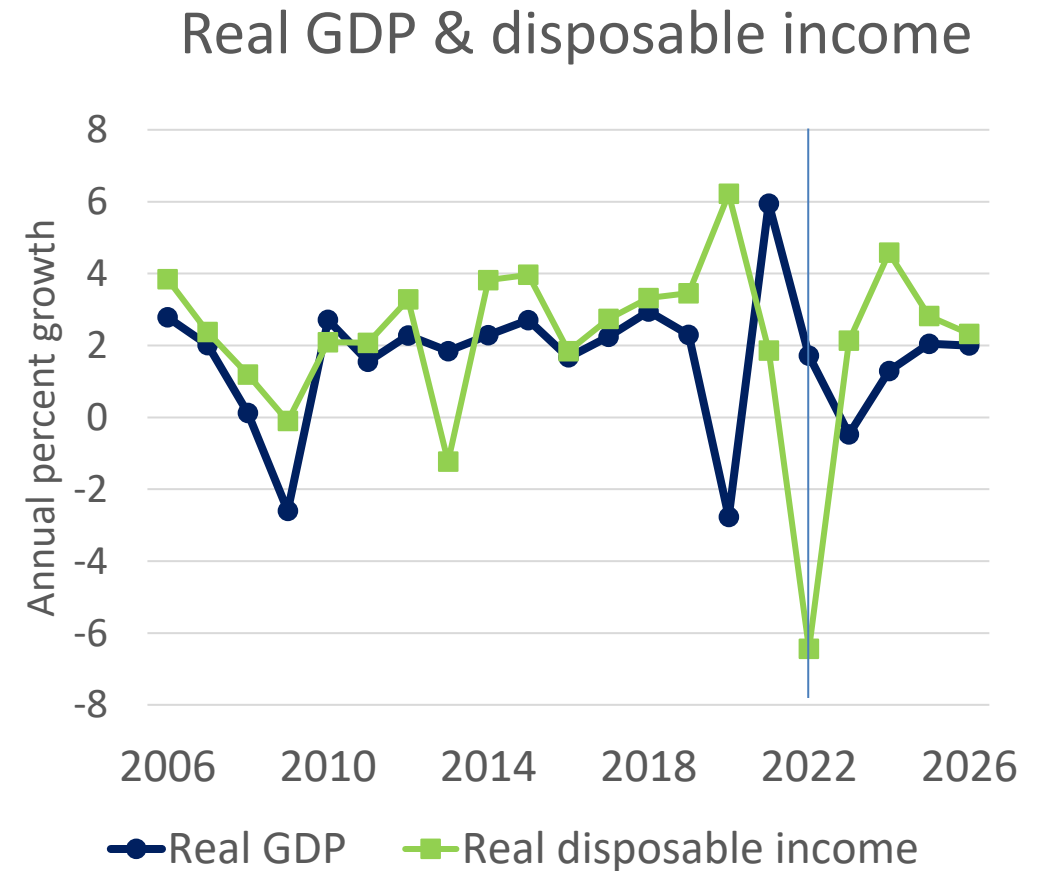


Source: S&P Global Oct22



U.S. real GDP and real disposable income

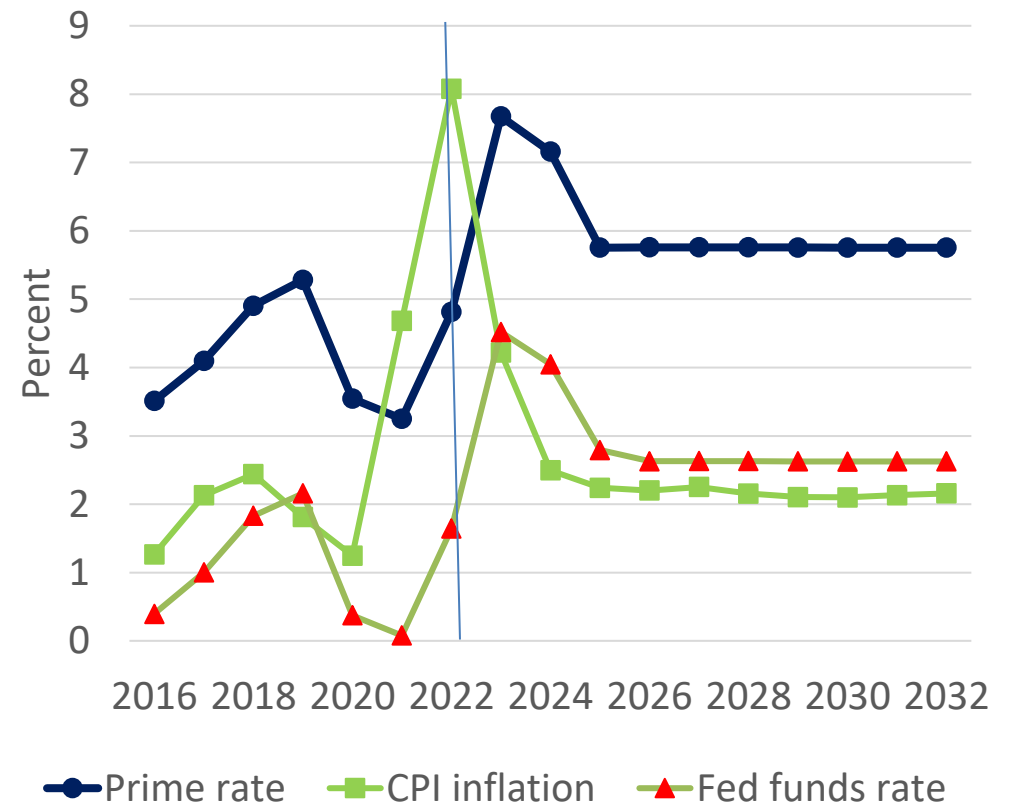
- Real GDP and disposable income have diverged since Covid hit
 - Real GDP fell sharply in 2020, then recovered in 2021
 - Real disposable income actually increased in 2020 because of gov't transfers; grew more slowly in 2021 and fell in 2022 as special programs were phased out
 - In 2023, S&P projects a 0.5% reduction in real GDP, with growth resuming by the 3rd quarter



Source: S&P Global, Oct. 2022

U.S. interest and inflation rates

- U.S. inflation has spiked, projected to avg. 8.1% in 2022
 - 7.7% year over year in October
- Fed is raising interest rates; S&P projects fed funds rate to reach 4.6% by Q2 2023
- S&P projects inflation to fall sharply—below 3% by end of 2023



Source: S&P Global, Oct. 2022

Weekly Retail Gasoline and Diesel Prices

\$/gal



— U.S. All Grades Conventional Retail Gasoline Prices — U.S. All Grades Reformulated Retail Gasoline Prices
— U.S. No 2 Diesel Ultra Low Sulfur (0-15 ppm) Retail Prices

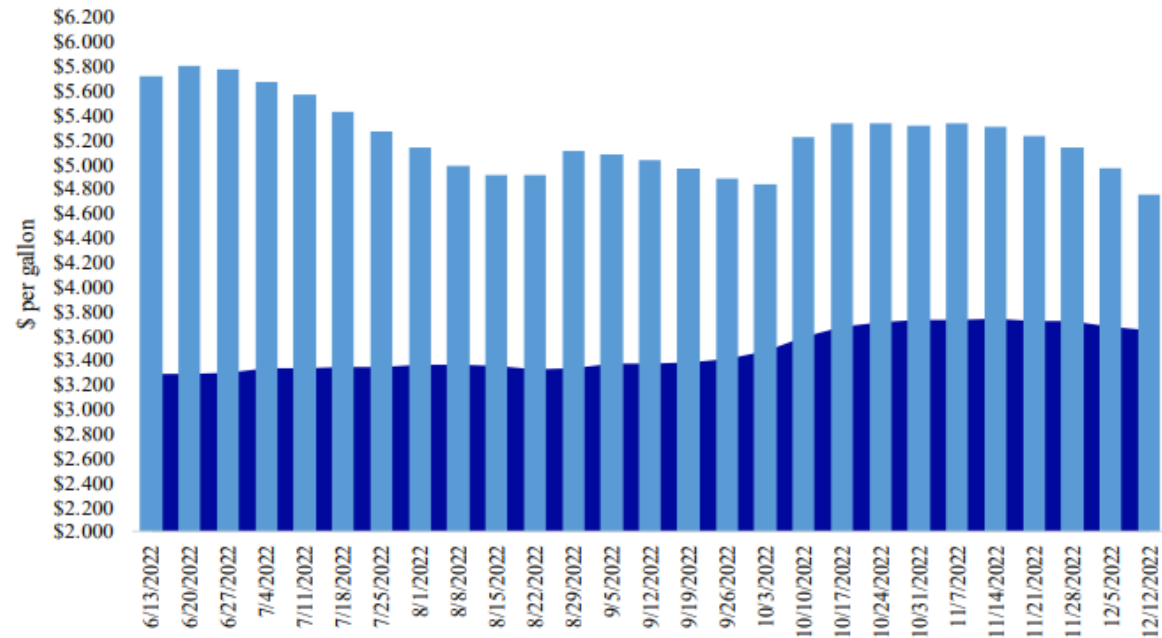
Data source: U.S. Energy Information Administration

Off-peak, but Still Near Record Prices

Figure 12
Weekly diesel fuel prices, U.S. average

For the week ending December 12, the U.S. average diesel fuel price decreased 21.3 cents from the previous week to \$4.754 per gallon, 110.5 cents above the same week last year.

■ Last year ■ Current year
\$3.649 \$4.754



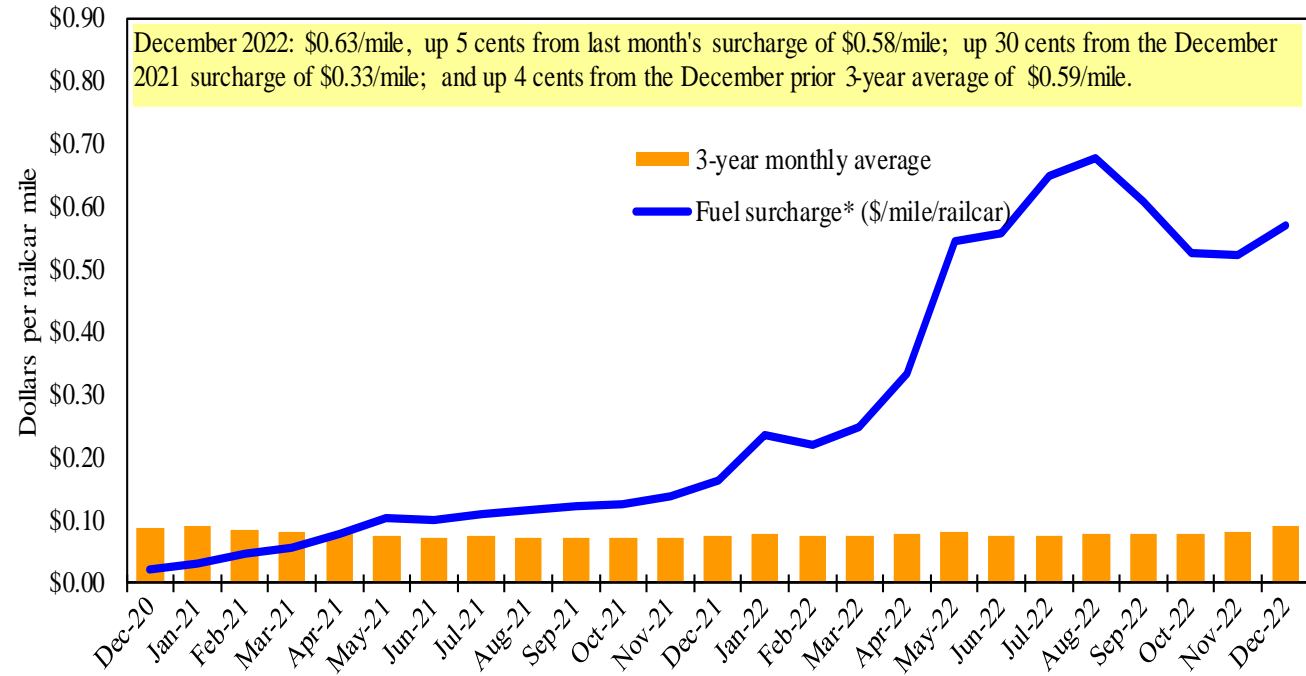
Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Source: <https://www.ams.usda.gov/sites/default/files/media/GTR12152022.pdf>

Figure 6

Railroad fuel surcharges, North American weighted average¹



¹ Weighted by each Class I railroad's proportion of grain traffic for the prior year.

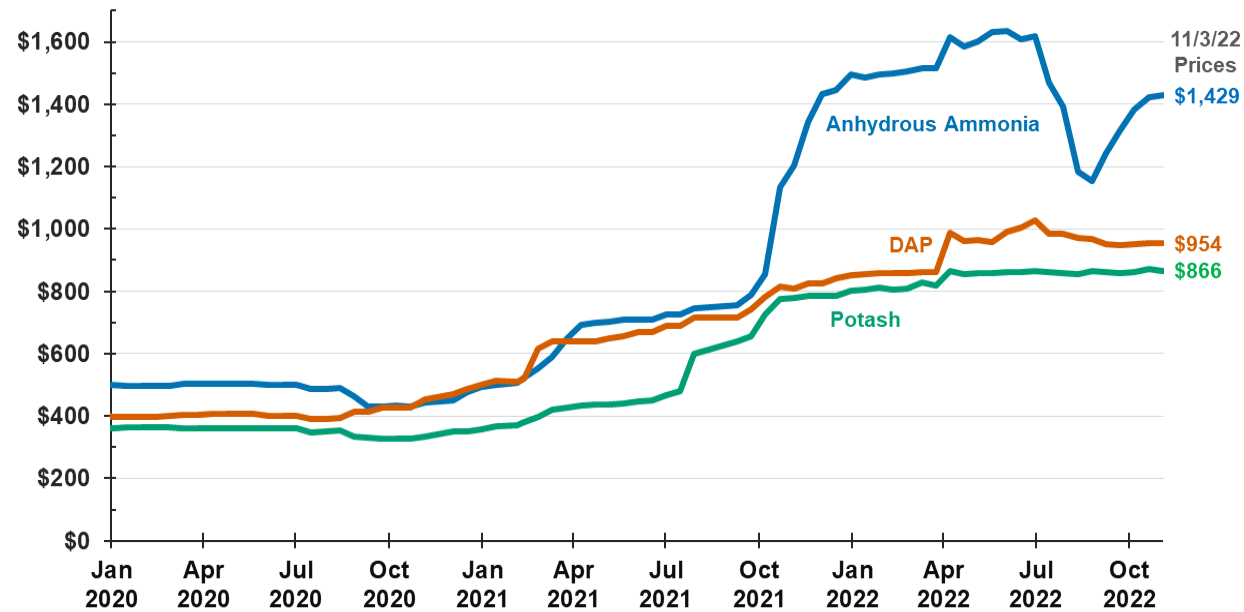
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Cost of Fertilizer and Inputs Remains High Relative to Historic Averages

Figure 1. Fertilizer Prices per Ton in Illinois From 2020 to 2022



Source: US Department of Agriculture, Agricultural Marketing Service

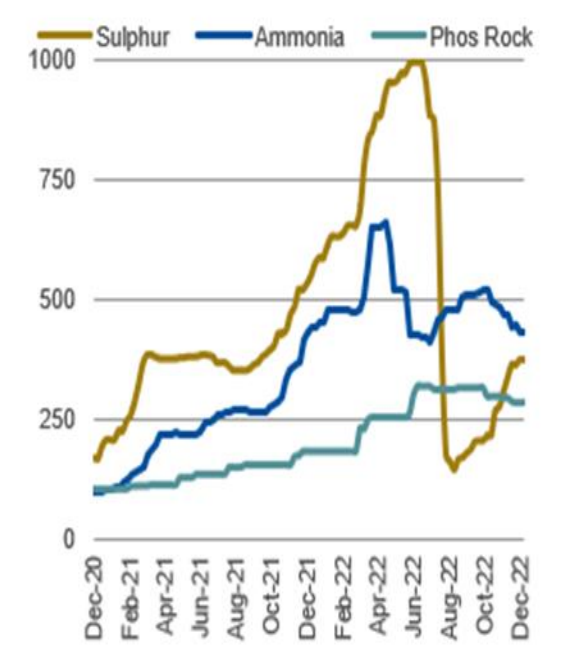
farmdocDAILY

CRU downstream and raw material fertilizer price index

Downstream price index, Jan 2020 = 100



Raw material price index, Jan 2020 = 100



DATA: CRU. NOTE: Key benchmark prices consolidated to trade weighted index.

NOTE: Ammonia index adjusted from 14 April to exclude Black Sea price and trade weight and again on 28 April to exclude Baltic Sea price and trade weight

Source: Fertilizer Week Tweet 12/9/22

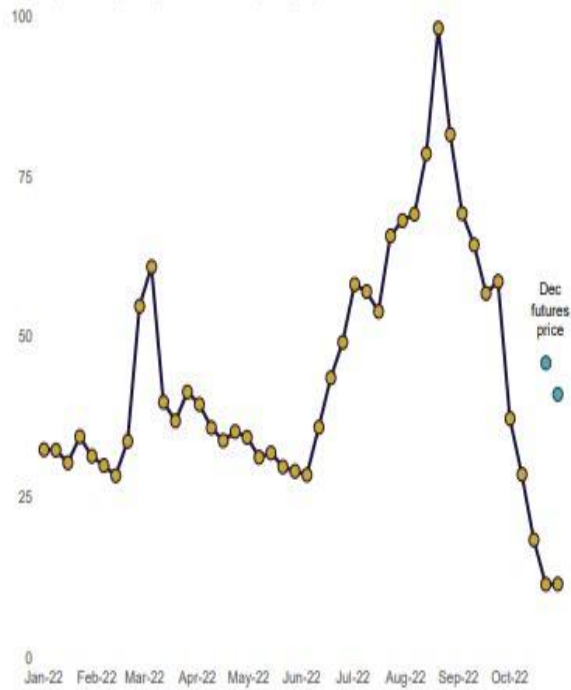
Source: <https://farmdocdaily.illinois.edu/2022/11/outlook-for-nitrogen-prices-in-spring-2023.html>

'Profitability Re-emerged'

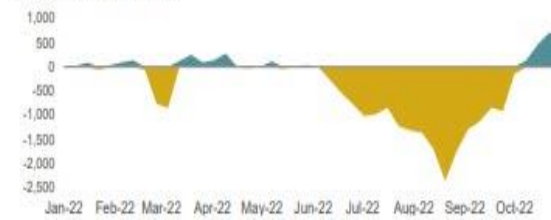
Fertilizer Week Twitter **11/9/22** @FertilizerWeek1

European gas prices are tumbling, and nitrogen profitability has re-emerged...

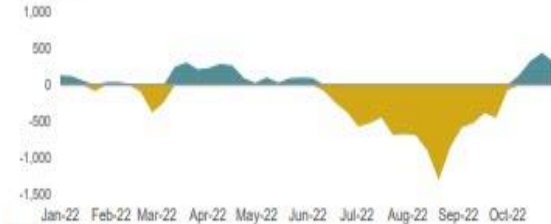
Weekly average day ahead TTF spot gas price, \$ /MMBtu



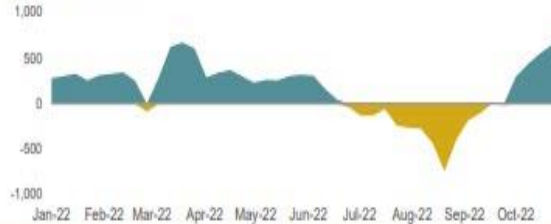
Ammonia profitability, \$ /t



Urea profitability, \$ /t



AN profitability, \$ /t



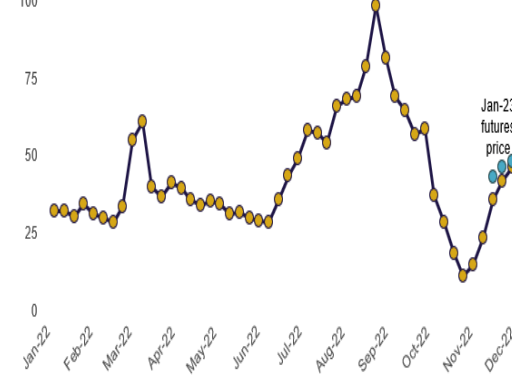
CRU DATA: CRU

'Profitability Quickly Evaporates'

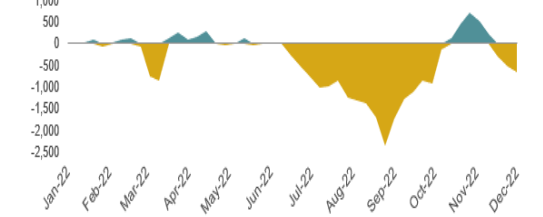
Fertilizer Week Twitter **12/6/22** @FertilizerWeek1

European nitrogen profitability quickly evaporates as gas prices rise again

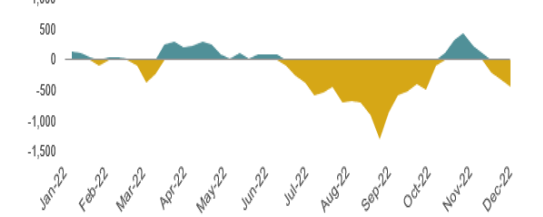
Weekly average day ahead TTF spot gas price, \$ /MMBtu



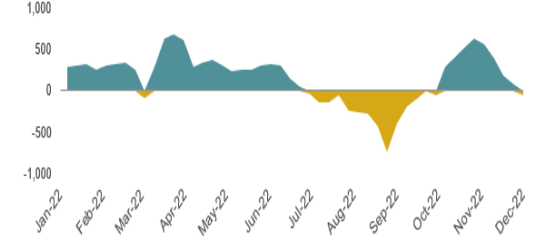
Ammonia profitability, \$ /t



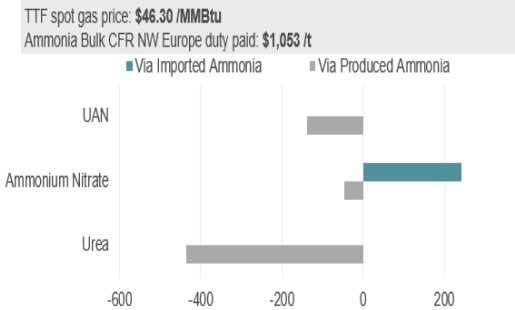
Urea profitability, \$ /t



AN profitability, \$ /t



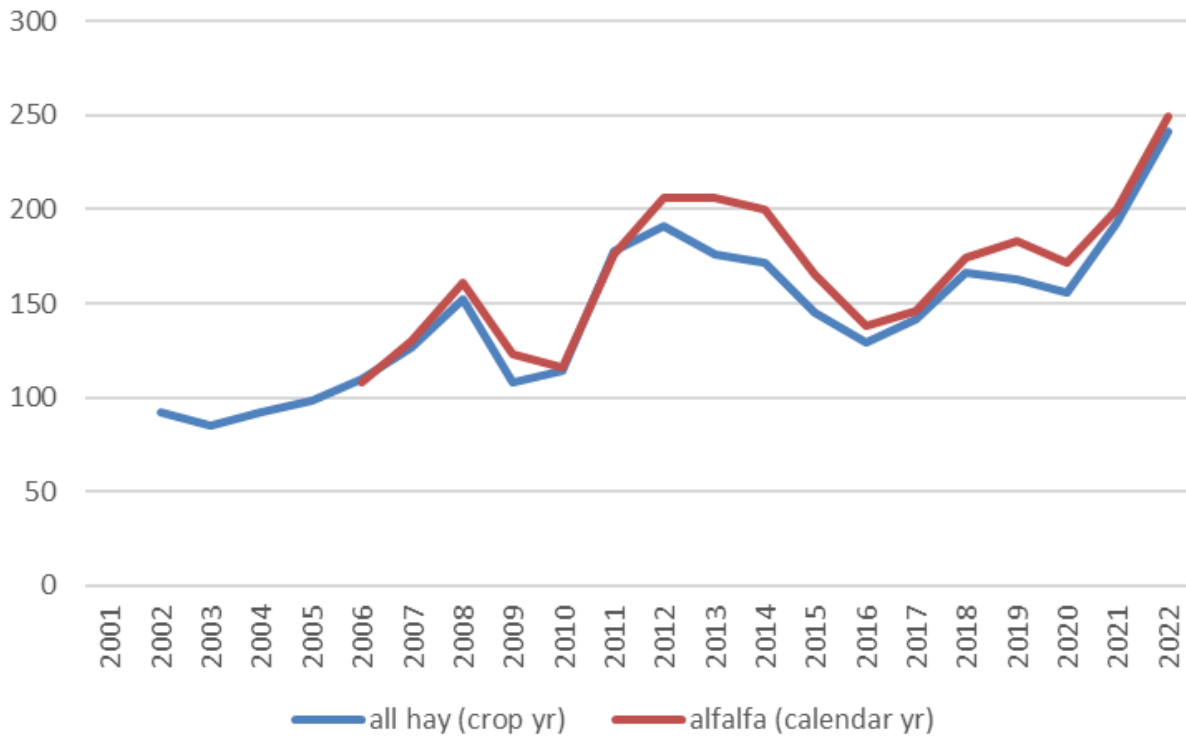
Current European nitrogen product margins, \$ /t



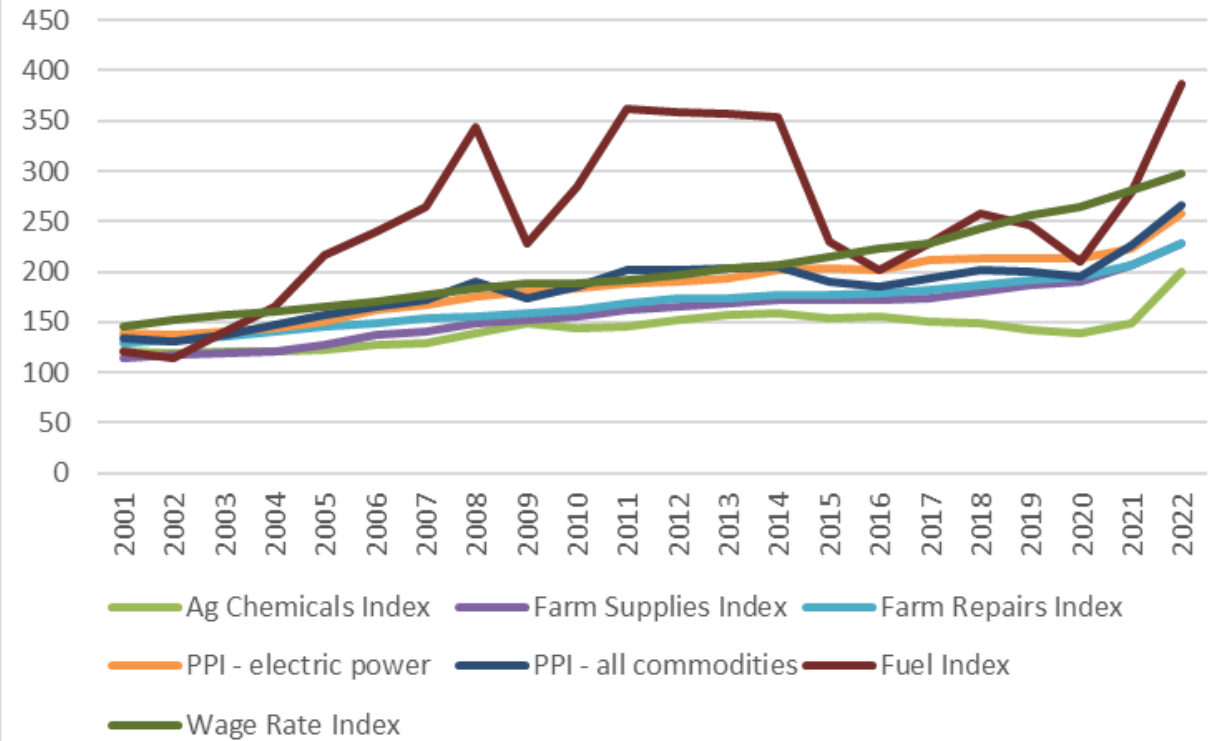
CRU Data: CRU, ICE

Ag Cost of Production Rising Steeply in Recent Years

U.S. Hay Prices, \$/ton



Selected Cost of Production Indexes, 1990-1992=100



<https://usda.library.cornell.edu/concern/publications/c821gj76b>

BTW...Coal Futures Largest YOY Price Increase Compared to Other Major Energy Commodities

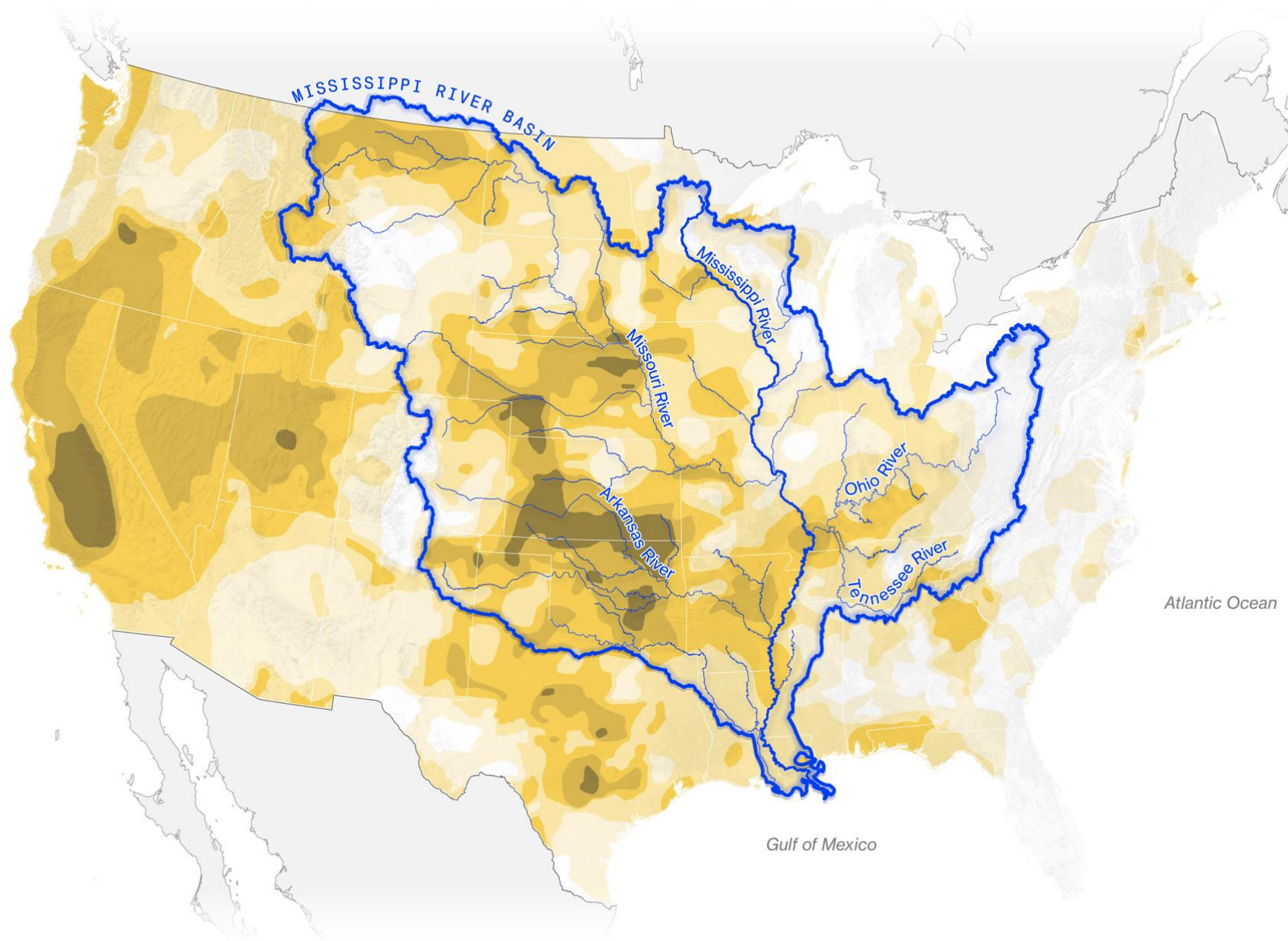


- *Coal accounts for about half of total energy consumption in both China and India*
- *EU substitutes coal for NG*
- *Floods in Australia impact global exports*

Adverse Weather Impacts

- ▶ Poor condition of US winter wheat
- ▶ Poor condition of US pasture and range
- ▶ Impacts to river transportation infrastructure
 - ▶ Mississippi
 - ▶ Rhine (Germany)
 - ▶ Yangtze (China)
 - ▶ Parana (Argentina, Brazil, Uruguay)

Drought intensity: Abnormal Moderate Severe Extreme Exceptional

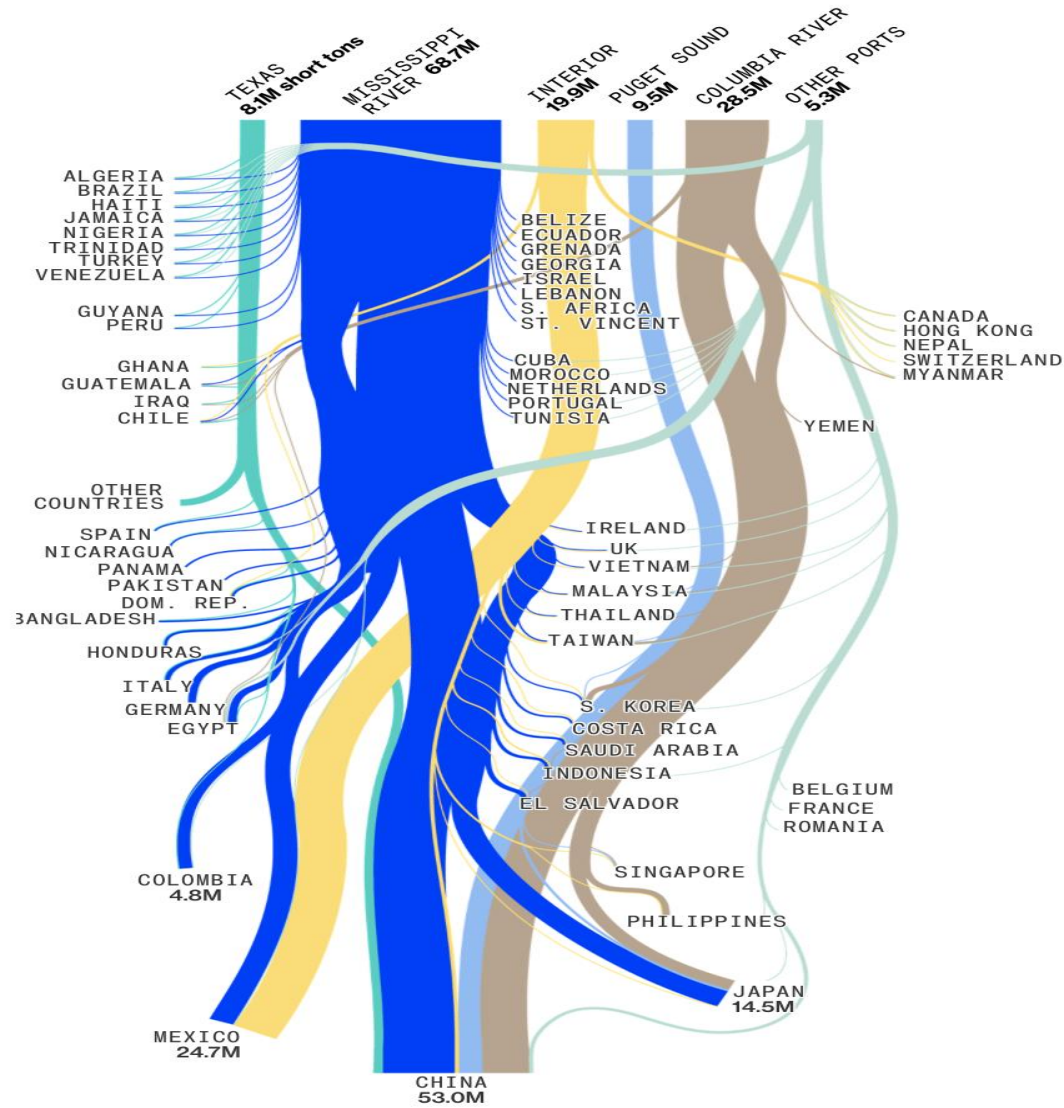


Note: Drought snapshot for the week of October 25.
Source: U.S. Drought Monitor



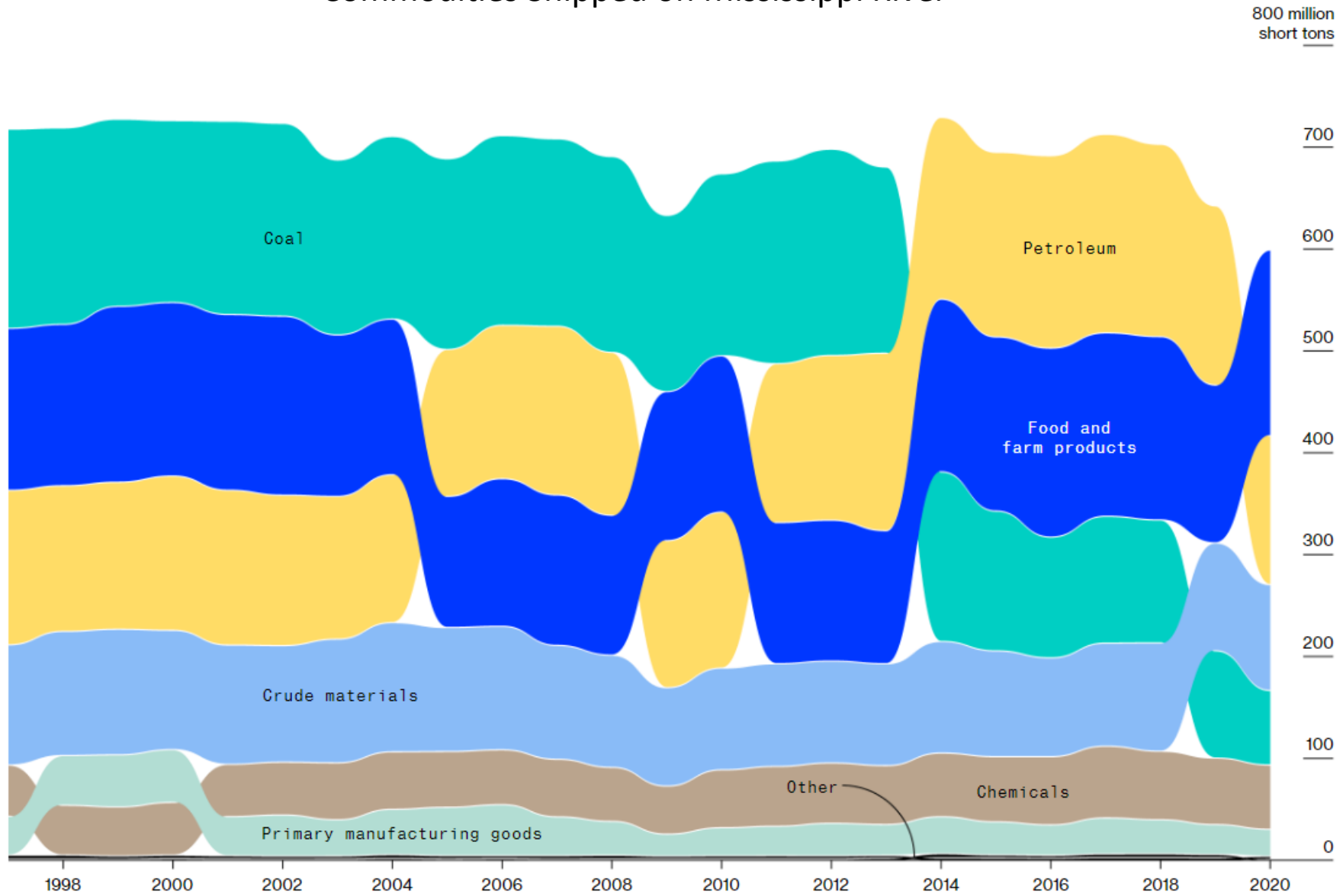
The Mississippi River Carries Most US Grain Shipments for Export

Annual grain exports from US origins



Note: Grains include soybean, corn, wheat, sorghum, oats, sunflower, barley, canola and flaxseed. Data are for countries that imported more than 10,000 metric tons between Nov. 4, 2021 and Nov. 3, 2022. Other ports include California, Chicago, Duluth, N. Atlantic, S. Atlantic, East Gulf, Lake Ontario and Toledo. Interior shipments include inspections conducted somewhere other than at an ocean port — typically land-based shipments to Mexico and Canada, as well as container shipments abroad. Source: US Department of Agriculture Federal Grain Inspections

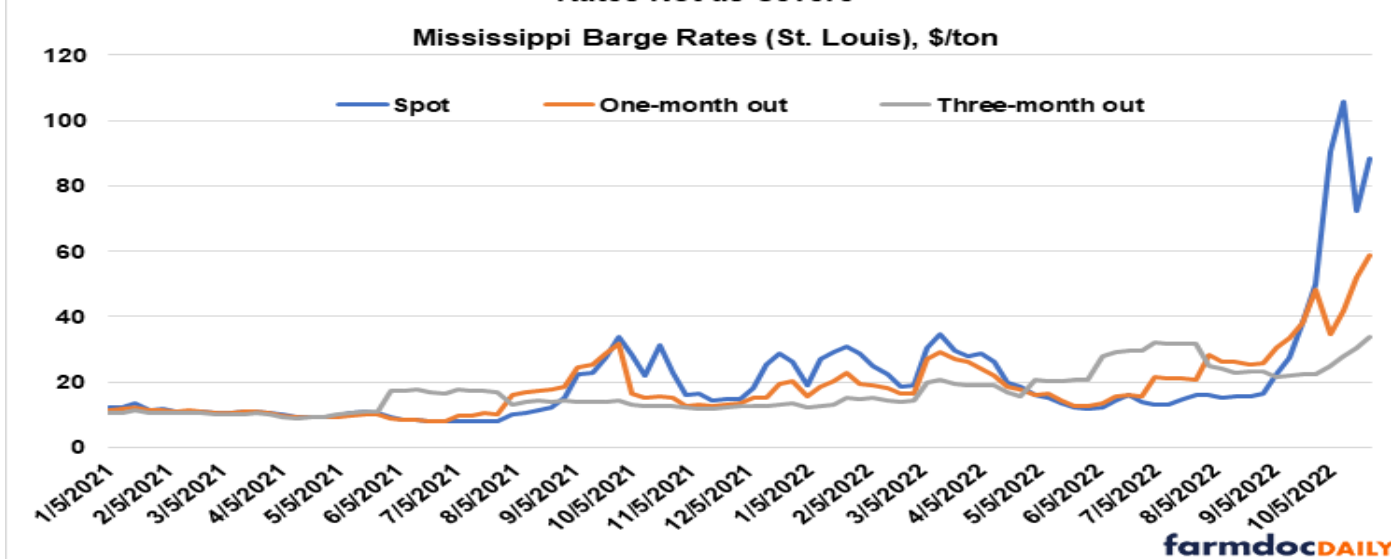
Commodities Shipped on Mississippi River



Source: US Army Corps of Engineers' Waterborne Commerce Statistics Center

<https://www.bloomberg.com/graphics/2022-mississippi-river-drought-global-impact/?leadSource=verify%20wall>

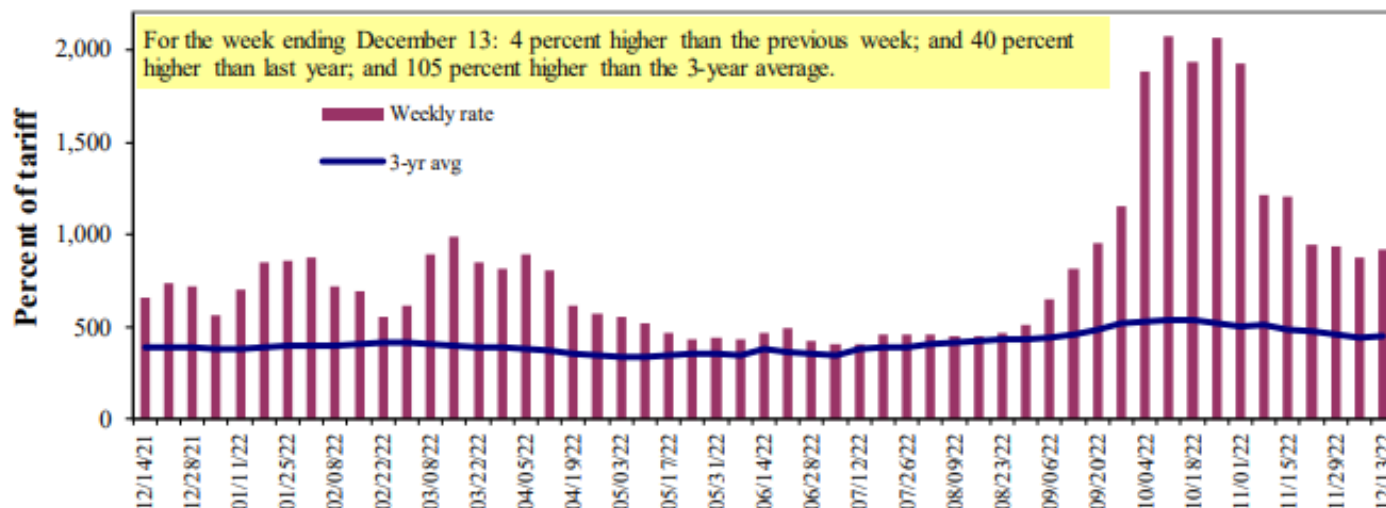
Figure 1. Spot Barge Rates Soar to Record Highs, One- And Three- Month Rates Not as Severe



Very good article:

<https://farmdocdaily.illinois.edu/2022/11/low-mississippi-river-barge-disruptions-effects-on-grain-barge-movement-basis-and-fertilizer-prices.html>

Figure 7
Illinois River barge freight rate^{1,2}



- U.S. barge rates closely linked
- Oct22 peak approximately 5X simple average downbound grain barges 7 rivers 2004-2022
- Dec22 to-date 2X simple average downbound grain barges 7 rivers 2004-2022

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.

*Source: USDA, Agricultural Marketing Service.

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.

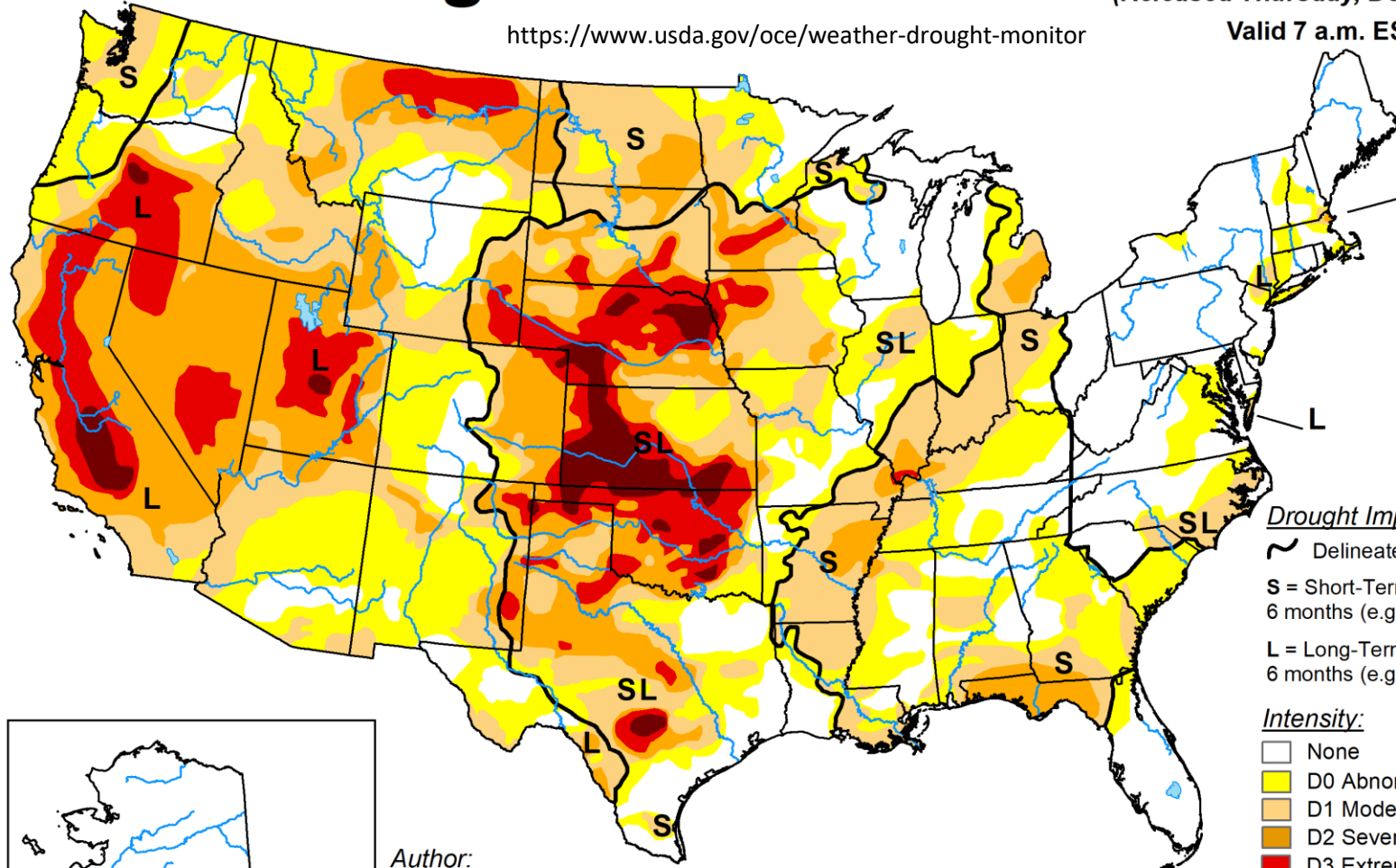
*Source: USDA, Agricultural Marketing Service.

U.S. Drought Monitor

December 13, 2022
(Released Thursday, Dec. 15, 2022)

<https://www.usda.gov/oce/weather-drought-monitor>

Valid 7 a.m. EST



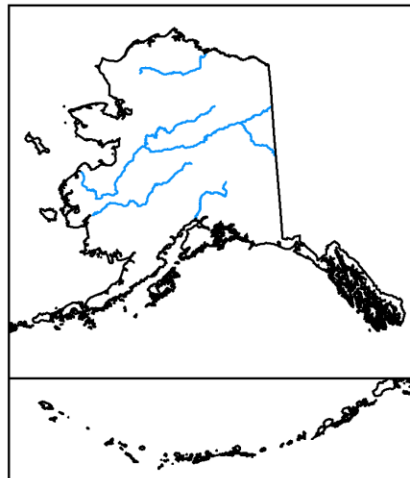
77.6% of continental U.S. in drought

Drought Impact Types:

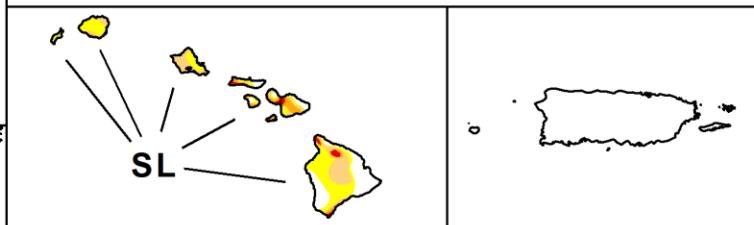
- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



Author:
Curtis Riganti
National Drought Mitigation Center



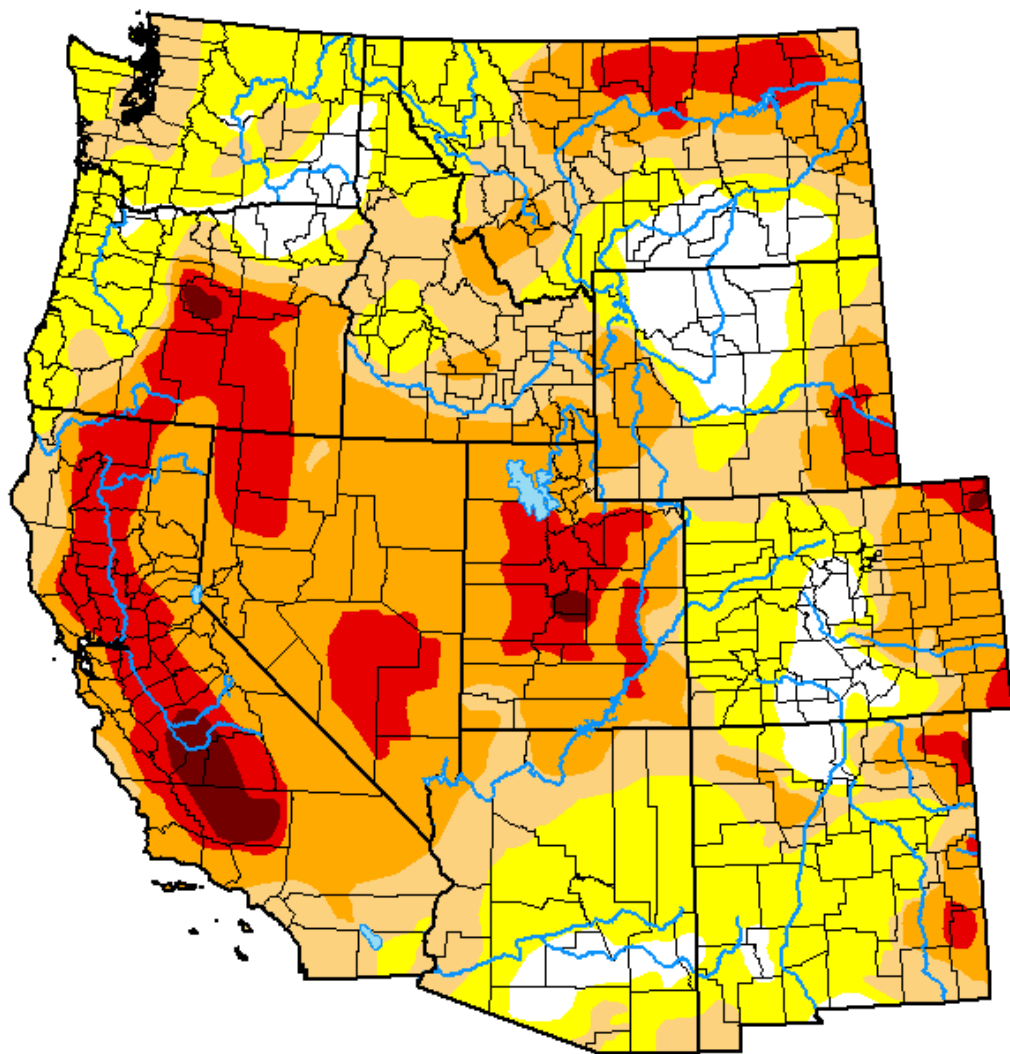
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



droughtmonitor.unl.edu

U.S. Drought Monitor West

December 13, 2022
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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.66	91.34	64.99	44.15	14.18	1.28
Last Week <i>12-06-2022</i>	7.93	92.07	66.64	45.25	16.00	2.02
3 Months Ago <i>09-13-2022</i>	8.72	91.28	71.36	49.03	18.16	2.63
Start of Calendar Year <i>01-04-2022</i>	3.68	96.32	89.29	64.90	23.85	3.94
Start of Water Year <i>09-27-2022</i>	3.89	96.11	73.90	47.71	19.37	2.63
One Year Ago <i>12-14-2021</i>	2.32	97.68	94.47	75.66	43.54	11.55

Intensity:



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Curtis Riganti
National Drought Mitigation Center

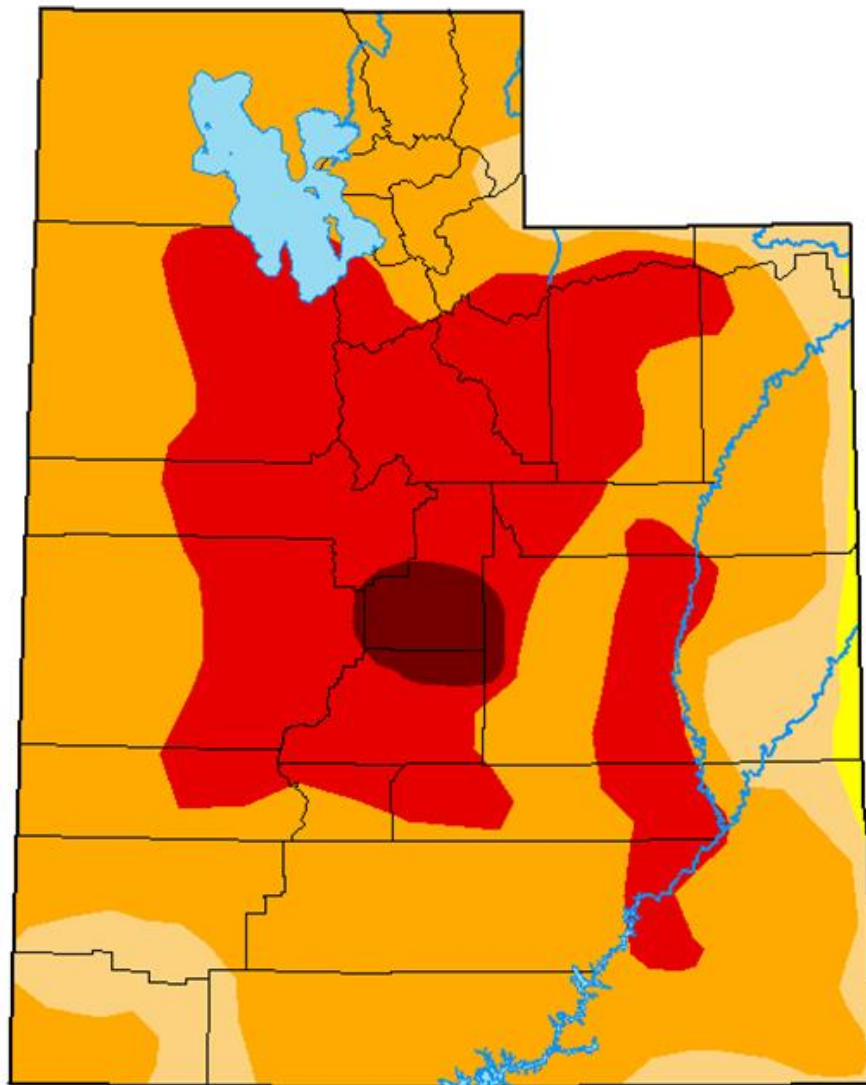


droughtmonitor.unl.edu

U.S. Drought Monitor

Utah

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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.10	89.61	31.11	1.91
Last Week <i>12-06-2022</i>	0.00	100.00	99.10	89.61	36.84	1.91
3 Months Ago <i>09-13-2022</i>	0.00	100.00	100.00	95.80	56.64	3.63
Start of Calendar Year <i>01-04-2022</i>	0.00	100.00	100.00	93.70	34.01	0.00
Start of Water Year <i>09-27-2022</i>	0.00	100.00	100.00	95.73	56.39	3.63
One Year Ago <i>12-14-2021</i>	0.00	100.00	100.00	99.52	78.71	0.07

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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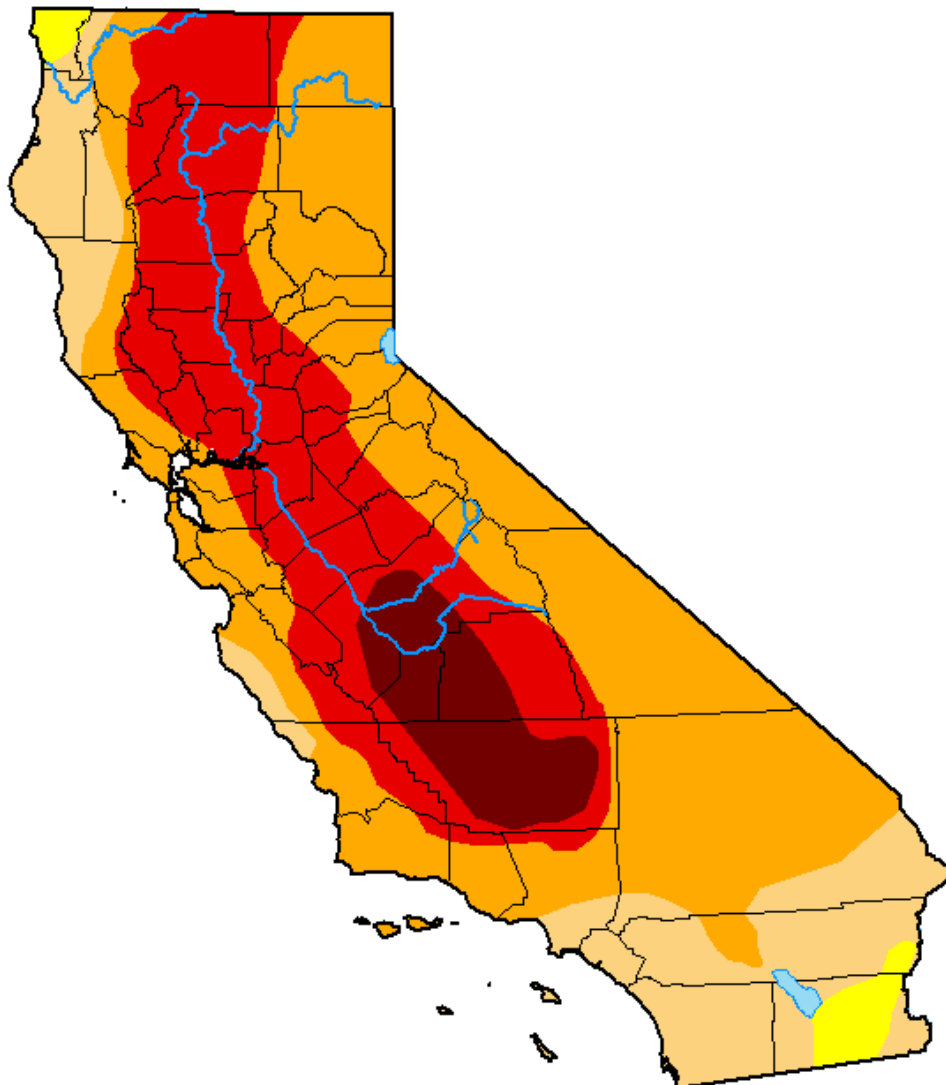


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U.S. Drought Monitor California

December 13, 2022
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Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	97.94	80.56	35.50	7.16
Last Week <i>12-06-2022</i>	0.00	100.00	99.48	84.97	40.08	12.73
3 Months Ago <i>09-13-2022</i>	0.00	100.00	99.76	94.06	40.91	16.57
Start of Calendar Year <i>01-04-2022</i>	0.00	100.00	99.30	67.62	16.60	0.84
Start of Water Year <i>09-27-2022</i>	0.00	100.00	99.76	94.01	40.91	16.57
One Year Ago <i>12-14-2021</i>	0.00	100.00	100.00	92.43	80.28	28.27

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

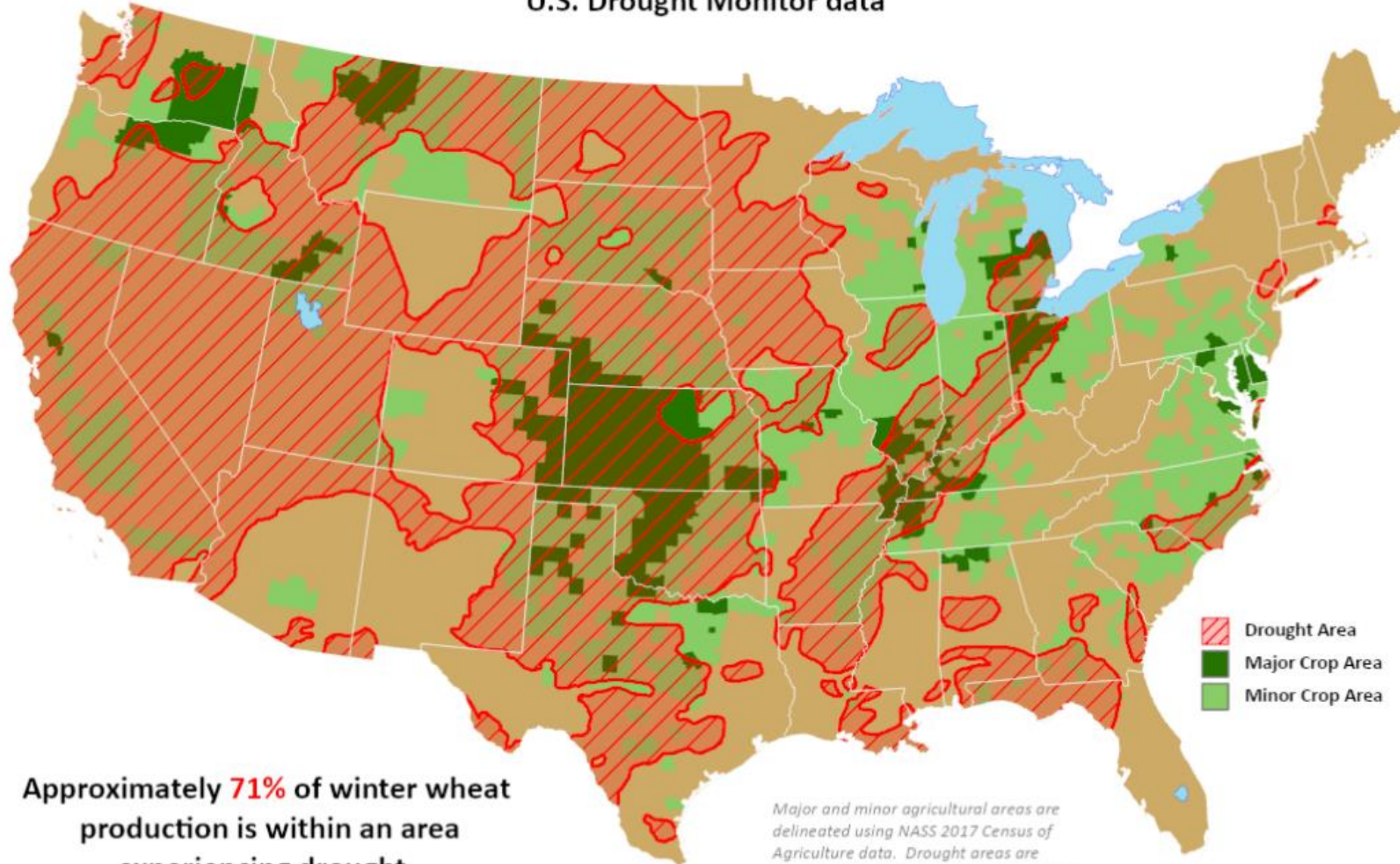
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

Winter Wheat Areas in Drought

Reflects **December 13, 2022**
U.S. Drought Monitor data

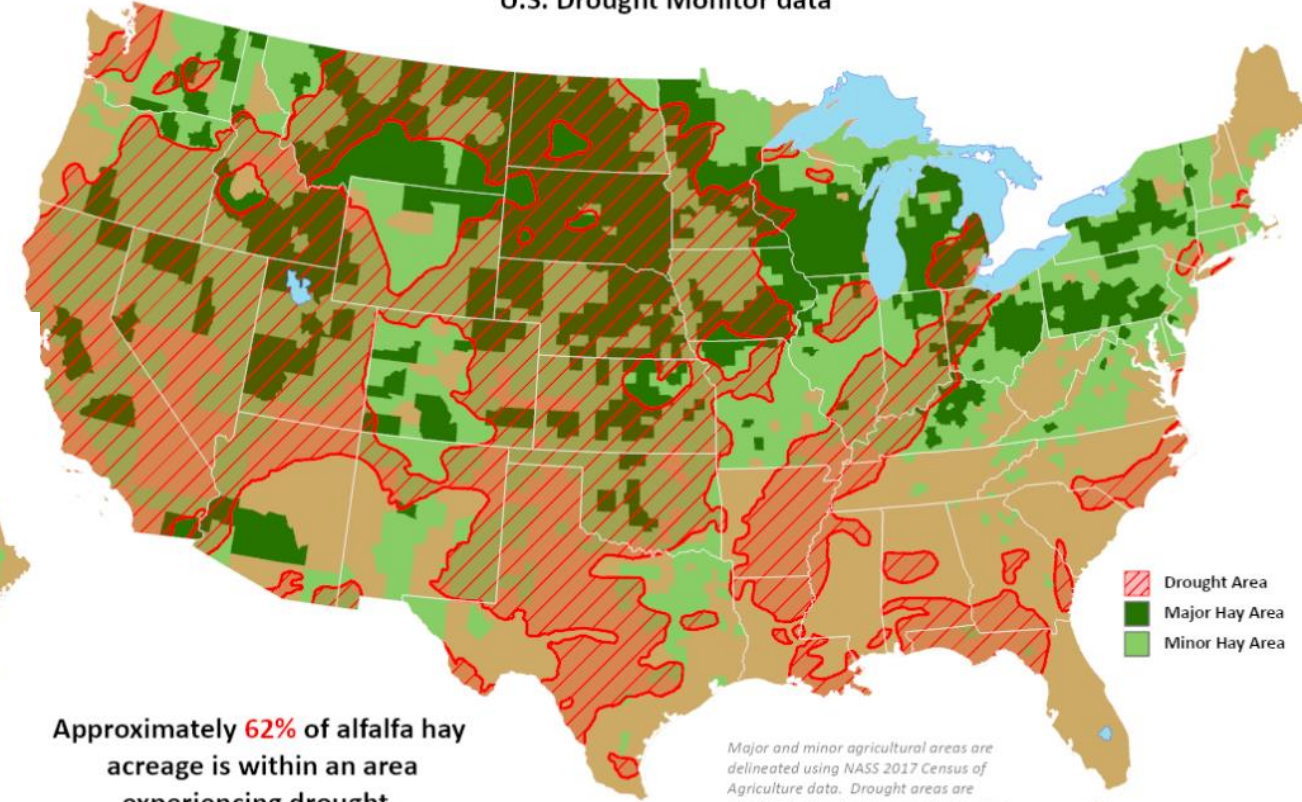


Approximately **71%** of winter wheat
production is within an area
experiencing drought.

*Major and minor agricultural areas are
delineated using NASS 2017 Census of
Agriculture data. Drought areas are
identified using the U.S. Drought Monitor
product.*

Alfalfa Hay Areas in Drought

Reflects December 13, 2022
U.S. Drought Monitor data



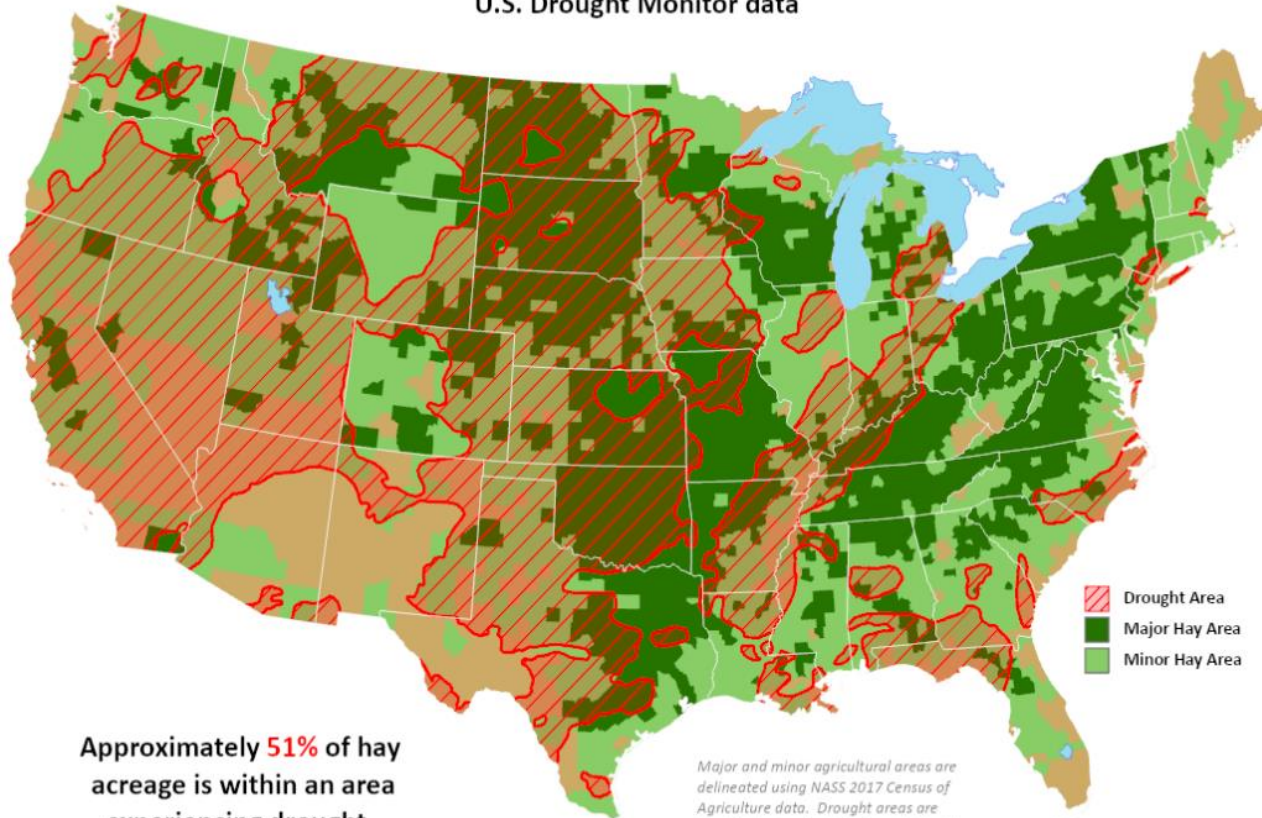
▨ Drought Area
■ Major Hay Area
■ Minor Hay Area

Approximately **62%** of alfalfa hay acreage is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

Hay Areas in Drought

Reflects December 13, 2022
U.S. Drought Monitor data



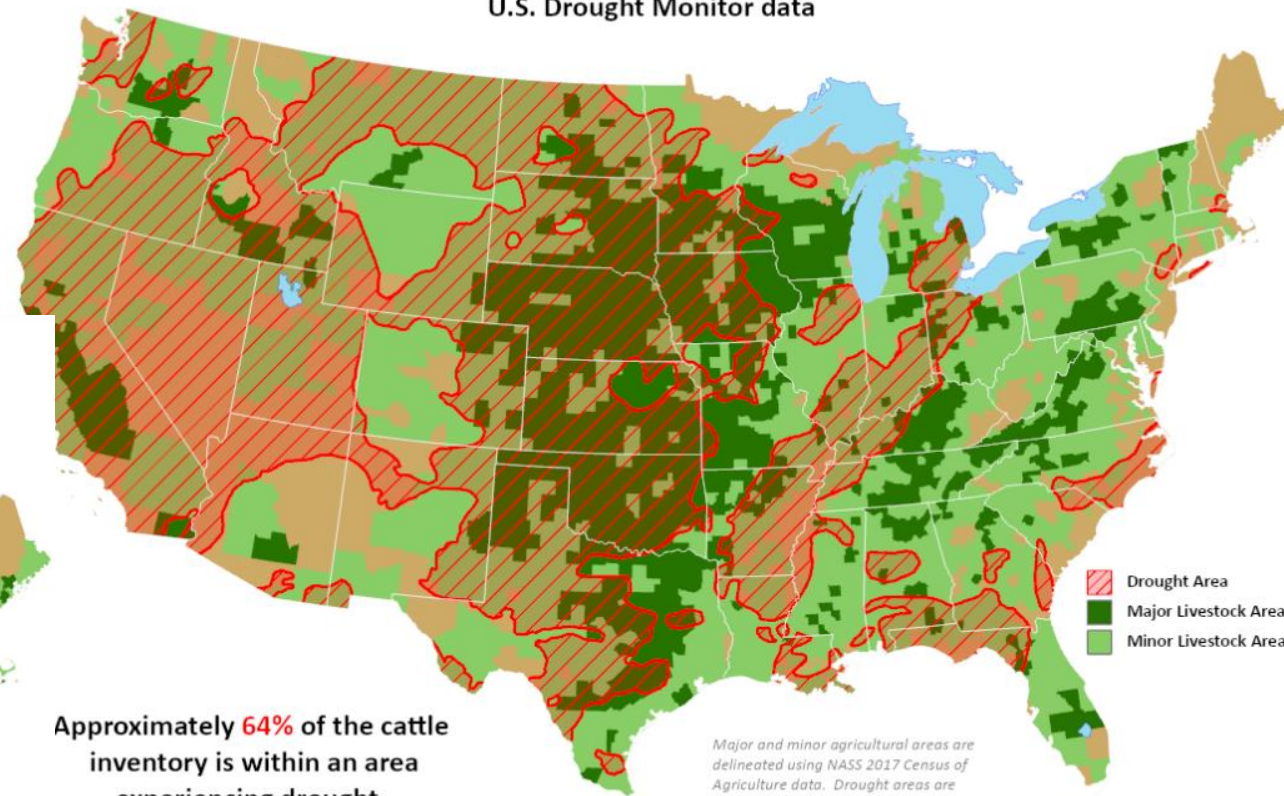
▨ Drought Area
■ Major Hay Area
■ Minor Hay Area

Approximately **51%** of hay acreage is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

Cattle Areas in Drought

Reflects December 13, 2022 U.S. Drought Monitor data



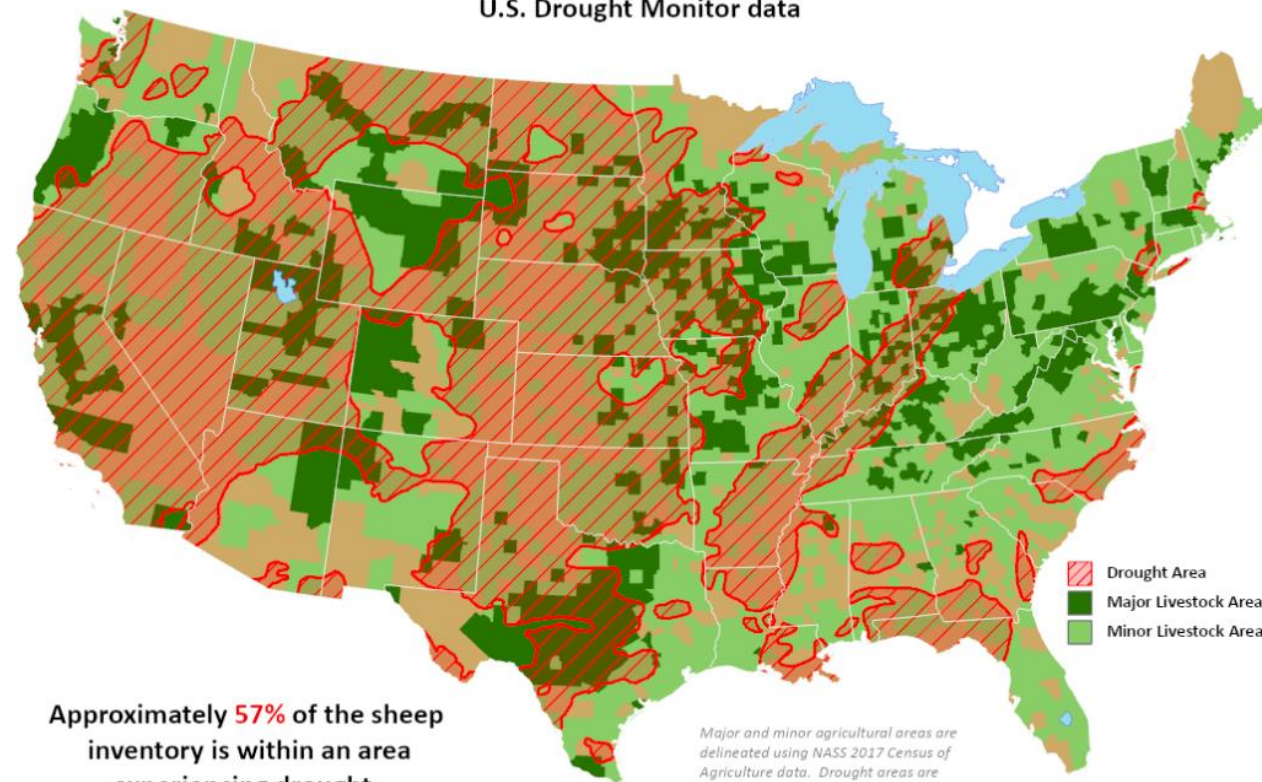
Legend: Red hatched box = Drought Area; Dark green box = Major Livestock Area; Light green box = Minor Livestock Area

Approximately 64% of the cattle inventory is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

Sheep Areas in Drought

Reflects December 13, 2022 U.S. Drought Monitor data

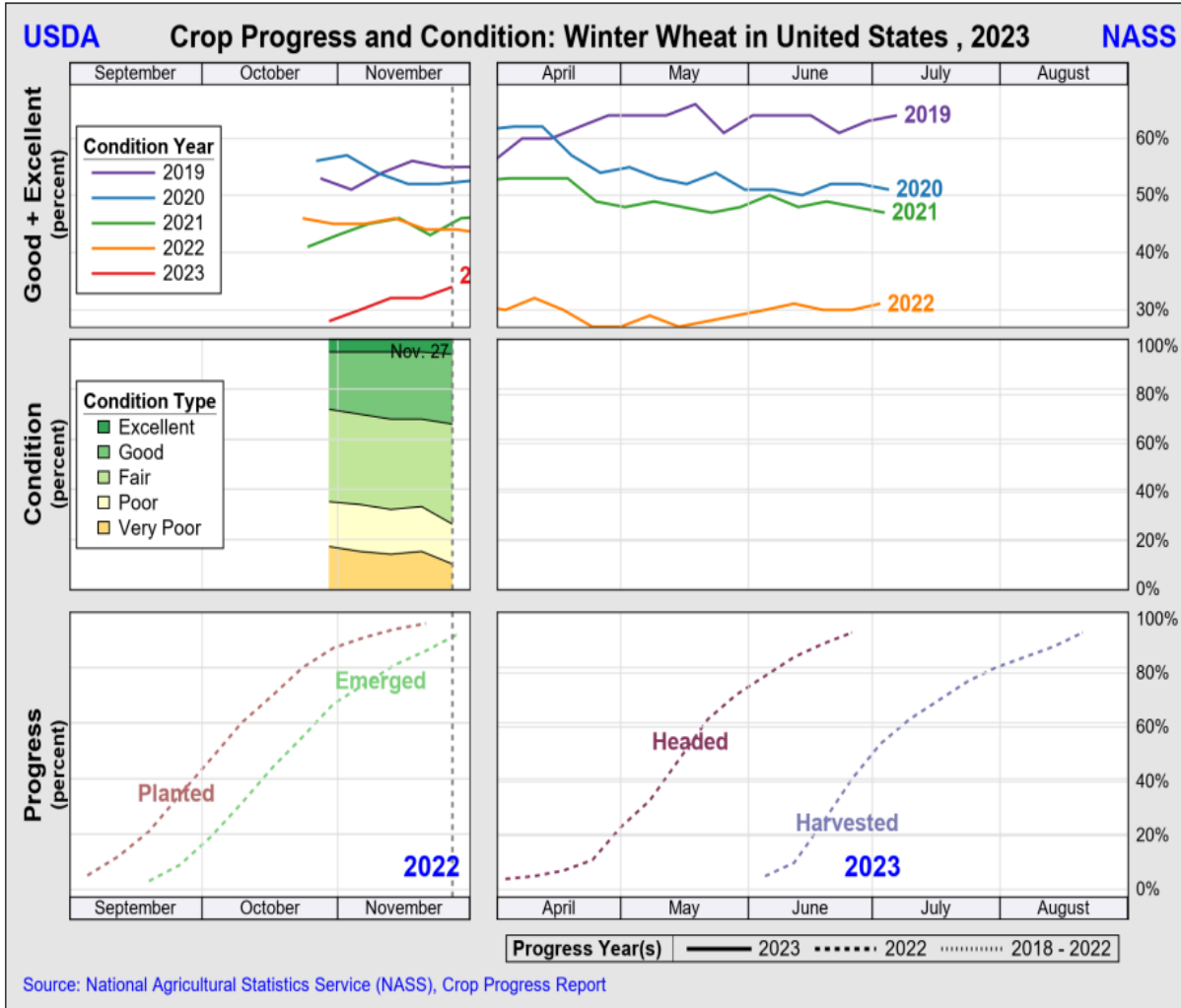


Legend: Red hatched box = Drought Area; Dark green box = Major Livestock Area; Light green box = Minor Livestock Area

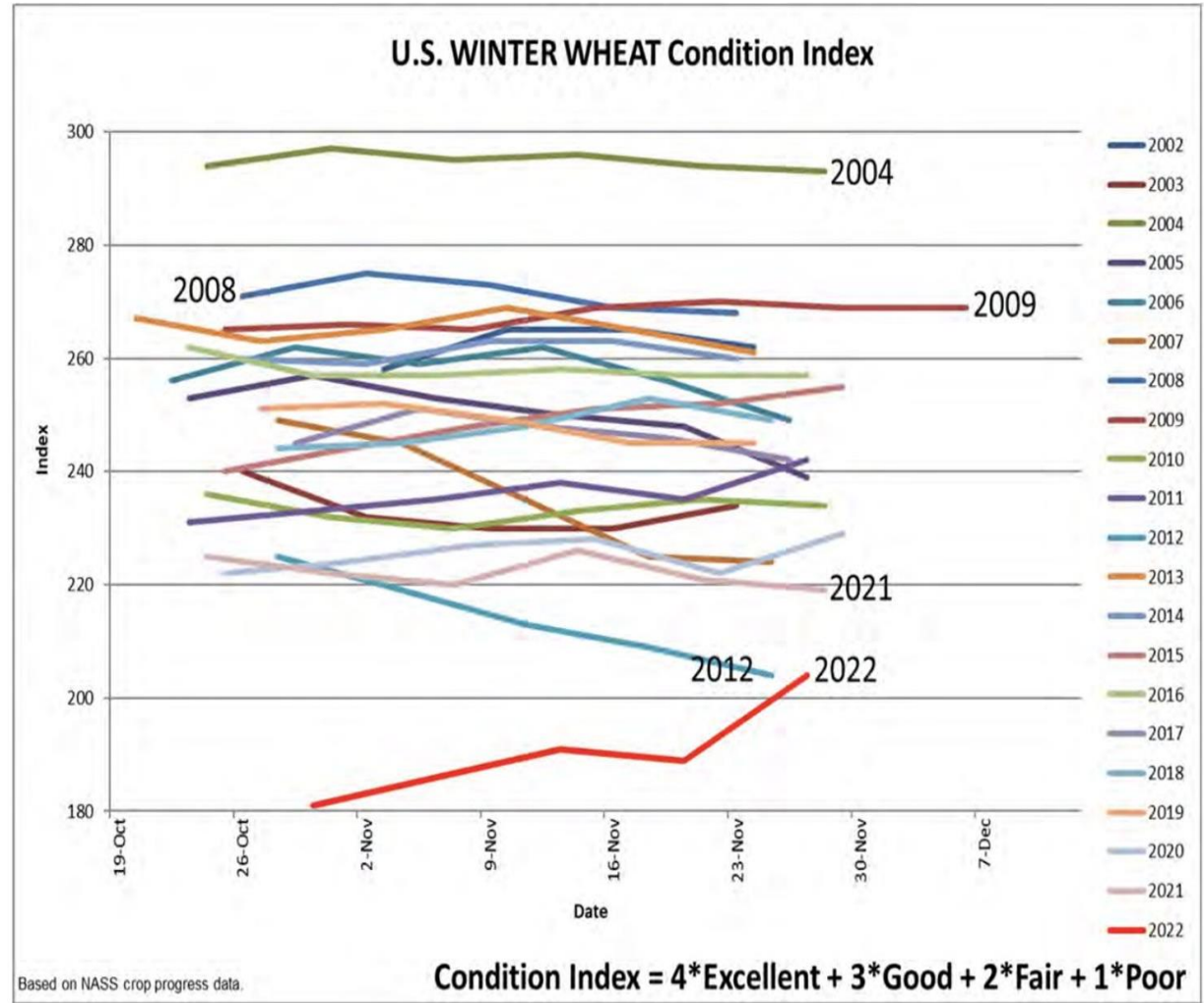
Approximately 57% of the sheep inventory is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

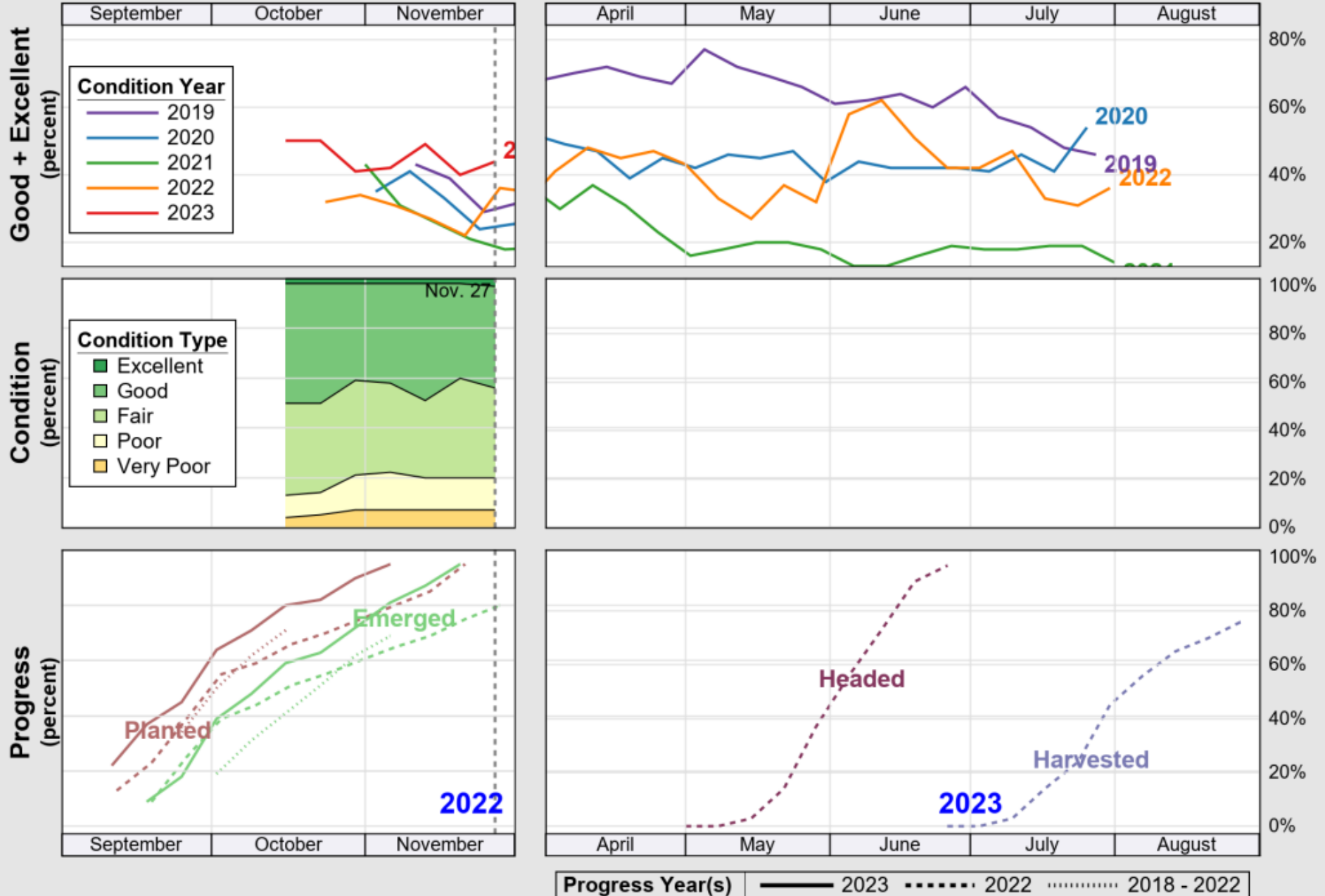
Wheat Condition Worst in 2000's – Some Improvement – Good Spring Weather Matters



https://www.nass.usda.gov/Charts_and_Maps/Crop_Progress_&_Condition/2023/US_2023.pdf

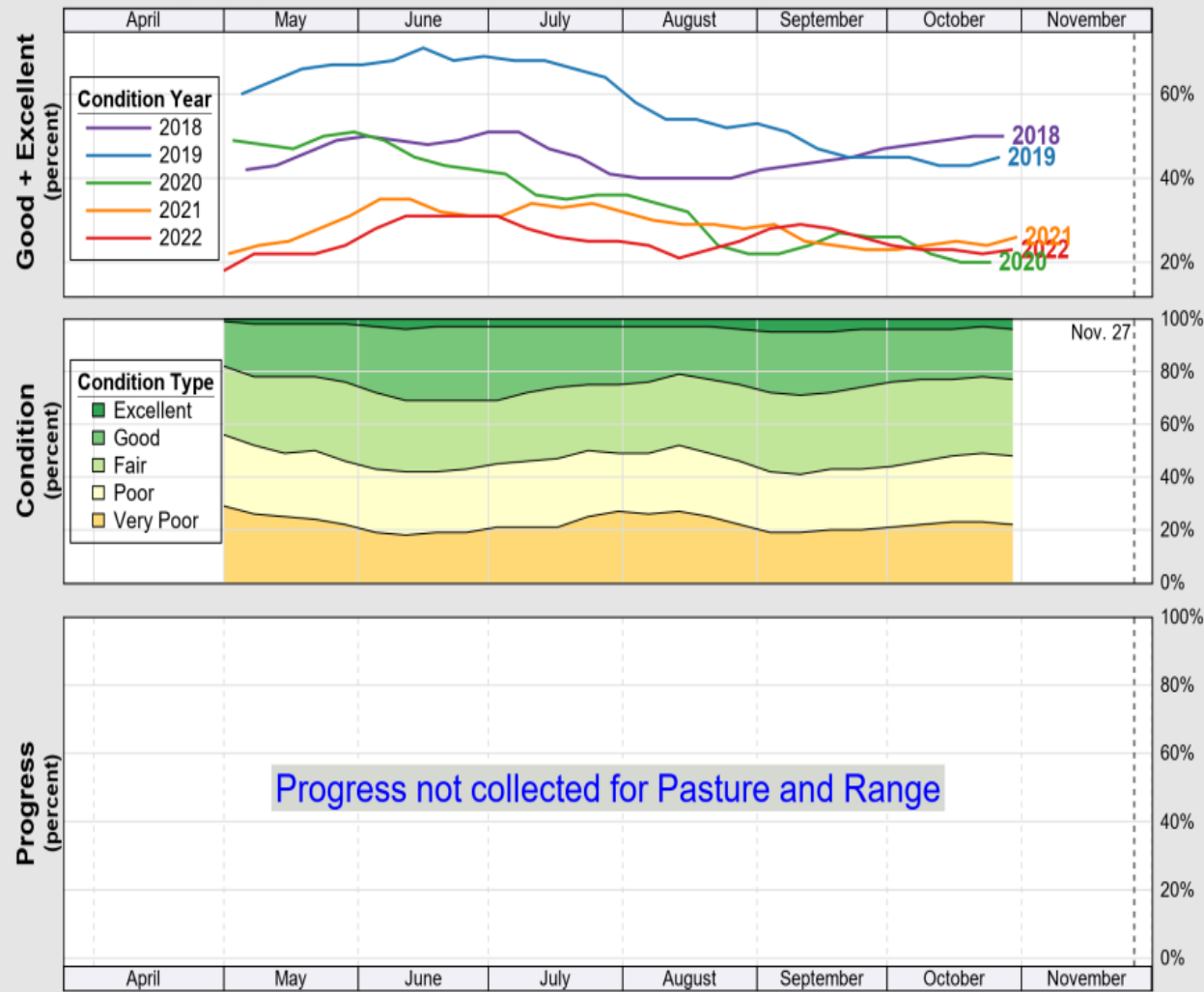


<https://www.usda.gov/sites/default/files/documents/wwcb.pdf> 12/6/22



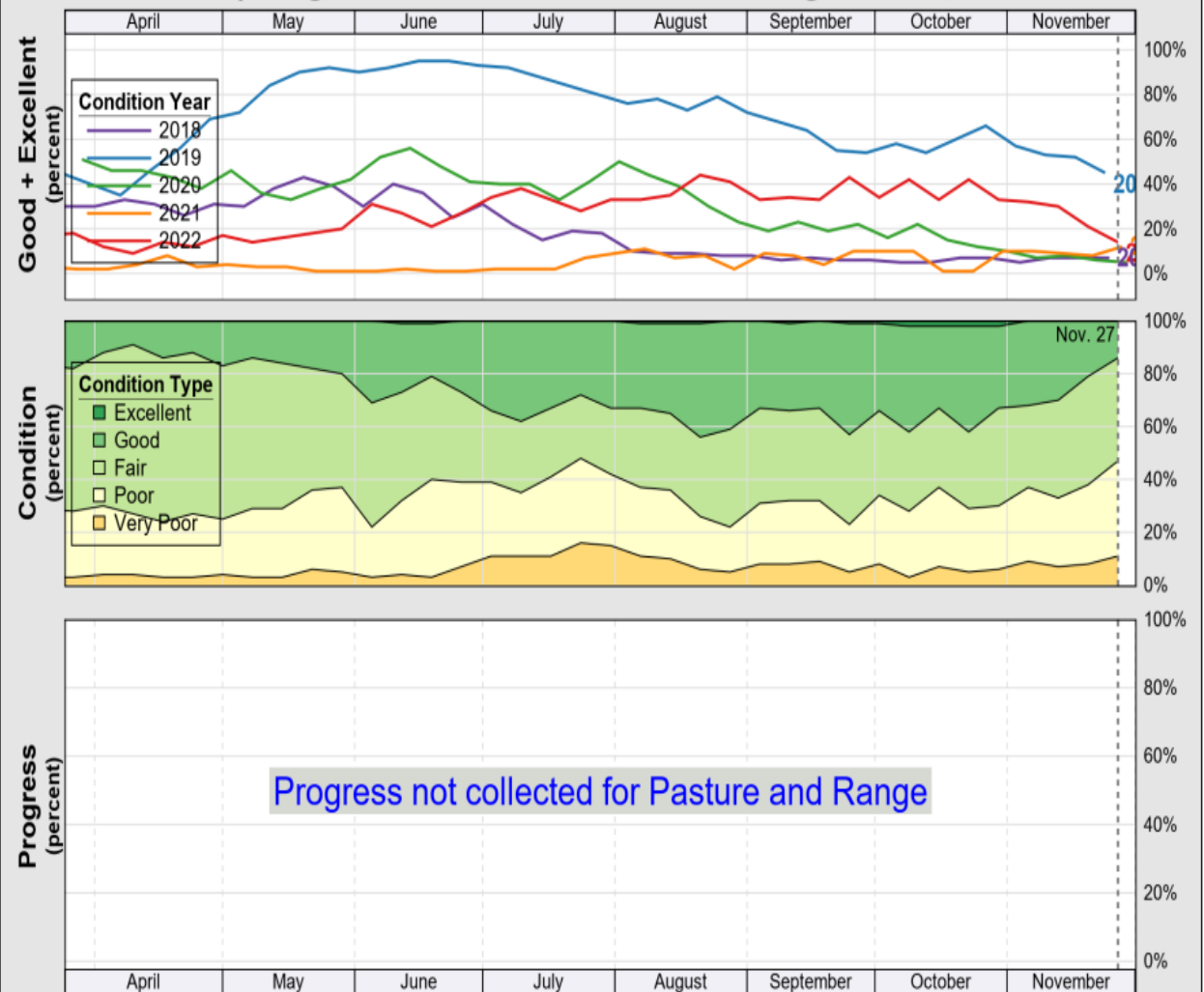
Utah Pasture and Range Condition Slightly Better Than National Average Across 2022

USDA Crop Progress and Condition: Pasture and Range in United States , 2022 NASS



Source: National Agricultural Statistics Service (NASS), Crop Progress Report

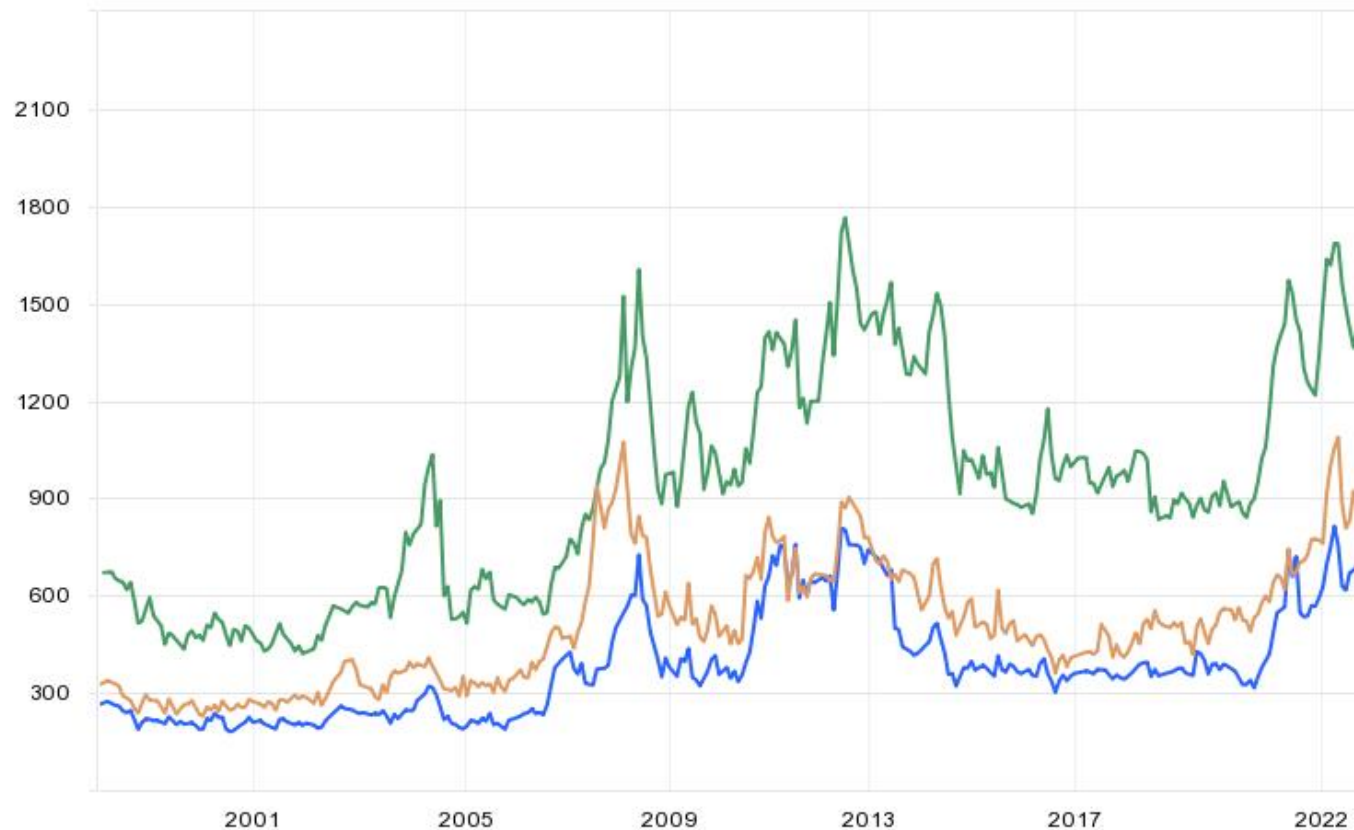
USDA Crop Progress and Condition: Pasture and Range in Utah , 2022 NASS



Source: National Agricultural Statistics Service (NASS), Crop Progress Report

Futures Markets Reflect Expectations About Supply (Production, Conflict) & Production (Weather, Conflict, Demand)

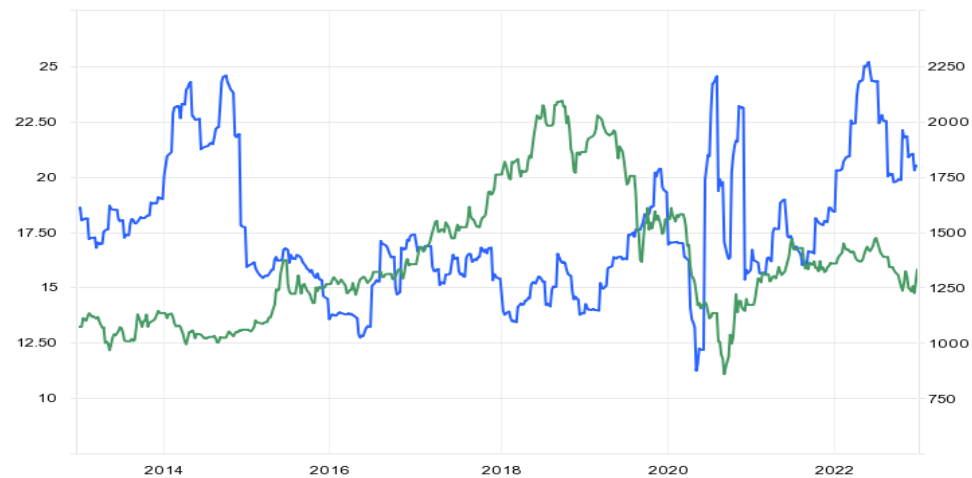
Com | Soybeans | Wheat



source: tradingeconomics.com

Accessed 12/18/22

Milk | Wool



Feeder Cattle



source: tradingeconomics.com

State Feeder Cattle Prices

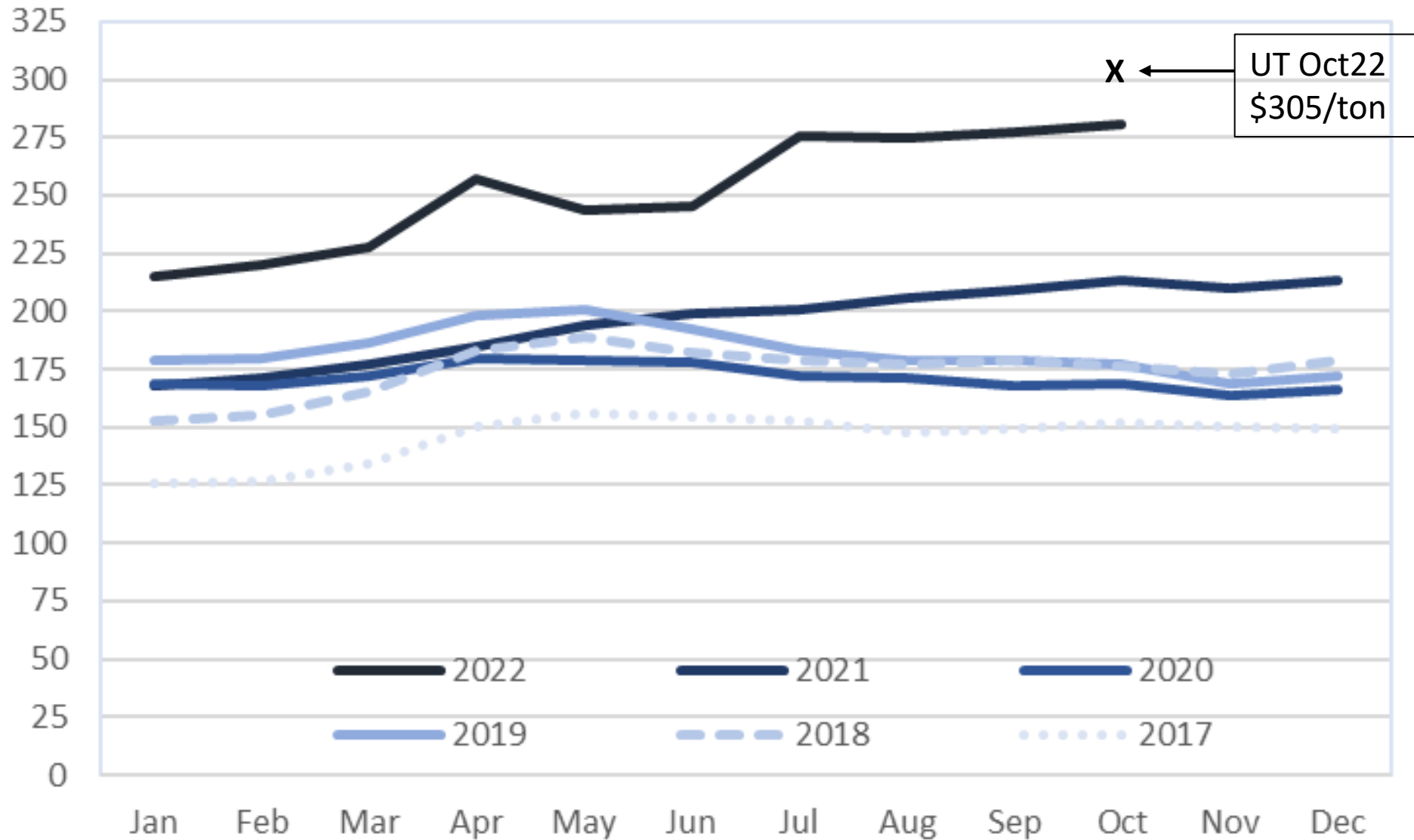
750 lb. Steers	12/16/22	Last Week	1 Month Ago	1 Year Ago	5 Yr. Avg.
Dakotas	191.89	191.18	186.84	168.66	157.49
Iowa	178.28	178.05	182.31	164.82	154.82
Missouri	181.62	181.19	180.59	161.62	151.42
Montana	179.05	180.12	179.11	160.20	154.39
Nebraska	190.21	193.34	190.08	172.95	160.34
Wyoming	180.71	181.80	180.80	161.70	155.68
North Central Avg.	183.63	184.28	183.29	164.99	155.69
Arkansas	174.21	166.31	171.21	155.15	145.14
Colorado	176.45	178.41	172.90	161.83	152.24
Kansas	181.55	181.16	180.75	161.65	150.99
New Mexico	172.88	172.39	170.85	155.75	146.22
Oklahoma	181.64	181.21	176.55	166.28	149.70
Texas	179.21	176.19	174.26	160.91	147.31
South Central Avg.	177.66	175.95	174.42	160.26	148.60
Alabama	165.75	165.45	164.55	146.78	135.40
Florida	163.25	160.14	151.02	142.71	133.60
Georgia	168.25	165.48	155.65	146.42	135.72
Kentucky	165.16	166.21	173.15	152.07	141.46
Louisiana	165.88	161.70	162.56	146.38	138.78
Mississippi	167.05	162.18	163.02	146.82	135.34
Tennessee	163.97	164.85	161.97	151.32	139.48
Virginia	163.17	164.20	161.08	151.69	141.45
Southeast Avg.	165.31	163.78	161.63	148.02	137.65
Arizona	169.47	169.97	168.35	152.50	143.74
California	177.15	178.19	173.04	156.11	146.75
Idaho	175.97	175.95	172.88	155.80	147.89
Nevada	175.33	175.94	171.32	154.75	145.68
Oregon	175.49	175.40	172.20	155.26	147.42
Utah	175.05	175.50	171.15	154.55	146.20
Washington	175.57	175.39	172.50	155.51	147.43
Western Avg.	174.86	175.19	171.63	154.93	146.44
<small>www.cattlerange.com</small>					
Overall Average	175.36	174.80	172.74	157.05	147.10
This Week +/-	-	0.3%	1.5%	11.7%	19.2%

UT feeder prices up ~13% YOY

<https://www.cattlerange.com/pages/market-reports/weekly-feeder-cattle-prices-by-state/>



U.S. Dry Alfalfa Farmgate Prices, \$USD/ton



<https://data.ers.usda.gov/FEED-GRAINS-custom-query.aspx#ResultsPanel>



Potential Approaches to Lessen Impacts

- ▶ Global, national, and state level
- ▶ Expand self-sufficiency
 - ▶ Ag production (direct)
 - ▶ Ag inputs such as energy and fertilizer (indirect)
- ▶ Expand planted area
 - ▶ Somewhat restricted potential because most productive areas are already producing
- ▶ Balance trade policies to ensure adequate supply for demand
 - ▶ Food security works against global unrest
 - ▶ Protectionist measures may further drive-up prices

Potential Utah Impacts

- ▶ Will prices continue to rise?
 - ▶ Increasing costs
 - ▶ Increasing revenue
- ▶ Utah ag production
 - ▶ Relatively minimal direct feed and fertilizer supply chain impacts (except dairy)
 - ▶ Direct drought impacts to grazing quality and quantity
 - ▶ Lagged impacts to cow-calf and sheep industries
 - ▶but, all these impacts will be felt for several years
- ▶ Changes to consumer demand with constrained household budgets?

Have a great day!



REGISTER NOW



URBAN & SMALL FARMS CONFERENCE

February 21-24, 2023

Virtual Event | FREE but registration is required


For more information, visit diverseag.org
or contact USU Extension, Salt Lake County, at 385-468-4824.
ginger.dalde@usu.edu.



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- Dates Tuesday February 21 through Friday morning February 24th
- DiverseAg.org
- Online – free but registration is required
- The conference is online but we will be offering in-person field day that will be hands on end of June in Kaysville
 - May be other events through the year

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Tuesday

- Morning - Drought
- Afternoon – Micro Farming

Wednesday

- Morning - Fruit
- Afternoon – Animals

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Thursday

- Morning – Cut Flowers
- Afternoon – Marketing /Economics

Friday

- Morning - Vegetables

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Friday

- Session descriptions coming in January
- Registration will open in January
- If want to be notified and added to the email listserve email ruby.ward@usu.edu or ginger.dalde@usu.edu

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**Inflation in 2022: Impacts on
Consumer and Input Pricing**

*Kynda Curtis, Extension Ag & Food Marketing Specialist
Applied Economics, USU Extension*



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1

Overview

- Inflation overview
- Consumer Price Index (CPI) – Food
 - Food price drivers
- Producer Price Index (PPI) – Food
- Bottom line for farmers/ranchers
- Input prices and shortages
- Suggestions

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2

Finance & economics | Free exchange

Why inflation refuses to go away

America and Britain are surprised once again by high prices



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Inflation Overview

- US consumer price index rose 7.1% over the past year before seasonal adjustments
 - Taking out food and energy costs, inflation rose 6%
 - The food price index climbed 10.6%
 - The energy cost index rose 13.1%
- Prices are still nowhere near historic highs in the 1980s
 - Inflation peaked in the spring of 1980 at 14.6% (adjusted)
- Source: US Bureau of Labor Stats at:
<https://www.bls.gov/news.release/cpi.nr0.htm>

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Consumer Price Index

	Seasonally adjusted changes from preceding month							Un-adjusted 12-mos. ended Nov. 2022
	May 2022	Jun. 2022	Jul. 2022	Aug. 2022	Sep. 2022	Oct. 2022	Nov. 2022	
All items	1.0	1.3	0.0	0.1	0.4	0.4	0.1	7.1
Food	1.2	1.0	1.1	0.8	0.8	0.6	0.5	10.6
Food at home	1.4	1.0	1.3	0.7	0.7	0.4	0.5	12.0
Food away from home(1)	0.7	0.9	0.7	0.9	0.9	0.9	0.5	8.5
Energy	3.9	7.5	-4.6	-5.0	-2.1	1.8	-1.6	13.1
Energy commodities	4.5	10.4	-7.6	-10.1	-4.7	4.4	-2.0	12.2
Gasoline (all types)	4.1	11.2	-7.7	-10.6	-4.9	4.0	-2.0	10.1
Fuel oil(1)	16.9	-1.2	-11.0	-5.9	-2.7	19.8	1.7	65.7
Energy services	3.0	3.5	0.1	2.1	1.1	-1.2	-1.1	14.2
Electricity	1.3	1.7	1.6	1.5	0.4	0.1	-0.2	13.7
Utility (piped) gas service	8.0	8.2	-3.6	3.5	2.9	-4.6	-3.5	15.5
All items less food and energy	0.6	0.7	0.3	0.6	0.6	0.3	0.2	6.0
Commodities less food and energy commodities	0.7	0.8	0.2	0.5	0.0	-0.4	-0.5	3.7
New vehicles	1.0	0.7	0.6	0.8	0.7	0.4	0.0	7.2
Used cars and trucks	1.8	1.6	-0.4	-0.1	-1.1	-2.4	-2.9	-3.3
Apparel	0.7	0.8	-0.1	0.2	-0.3	-0.7	0.2	3.6
Medical care commodities(1)	0.3	0.4	0.6	0.2	-0.1	0.0	0.2	3.1
Services less energy services	0.6	0.7	0.4	0.6	0.8	0.5	0.4	6.8
Shelter	0.6	0.6	0.5	0.7	0.7	0.8	0.6	7.1
Transportation services	1.3	2.1	-0.5	0.5	1.9	0.8	-0.1	14.2
Medical care services	0.4	0.7	0.4	0.8	1.0	-0.6	-0.7	4.4

Footnotes
(1) Not seasonally adjusted.

Source: US Bureau of Labor Stats at:
<https://www.bls.gov/news.release/cpi.nr0.htm>

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Historical Inflation Rates



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Consumer Price Index - Food

- The CPI for food increased as food prices were 10.6% higher in month November 2022 than November 2021
- The level of food price inflation varied depending on whether the food was purchased for consumption away from home or at home
 - The food-away-from-home (restaurant purchases) CPI increased 8.5%
 - The food-at-home (grocery store purchases) CPI increased 12%

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Consumer Price Index - Food

Consumer Price Index Item	Relative importance ¹	Month-to-month	Year-over-year	Year-to-date avg.	Annual 2020	Annual 2021	20-year historical average	Forecast range ² 2022
		September 2022 to October 2022	October 2021 to October 2022	2021 to avg. 2022				
	Percent	Percent change	Percent change	Percent change	Percent change	Percent change	Percent change	Percent change
All food	100.0	0.7	10.9	9.2	3.4	3.9	2.4	9.5 to 10.5
Food away from home	37.9	0.9	8.6	6.9	3.4	4.5	2.9	7.0 to 8.0
Food at home	62.1	0.5	12.4	10.6	3.5	3.5	2.0	11.0 to 12.0
Meats, poultry, and fish	12.9	-0.1	5.9	9.5	6.3	6.8	2.9	9.5 to 10.5
Meats	8.1	0.2	2.9	8.2	7.4	7.7	3.2	8.0 to 9.0
Beef and veal	3.7	-0.8	-3.6	5.7	9.6	9.3	4.4	5.0 to 6.0 (t)
Pork	2.6	-0.4	4.0	8.9	6.3	8.6	2.2	8.5 to 9.5
Other meats	1.8	3.0	16.9	13.0	4.4	2.9	2.2	13.5 to 14.5 (t)
Poultry	2.7	-1.1	14.9	14.0	5.6	5.1	2.3	14.5 to 15.5
Fish and seafood	2.1	-0.2	7.4	8.9	3.3	5.4	2.7	9.0 to 10.0
Eggs	1.0	10.1	43.0	26.7	4.3	4.5	3.2	29.5 to 30.5 (t)
Dairy products	5.9	0.2	15.5	10.9	4.4	1.4	1.7	11.5 to 12.5 (t)
Fats and oils	1.9	1.7	23.4	17.0	1.3	4.6	2.3	18.5 to 19.5 (t)
Fruits and vegetables	10.4	0.0	9.3	8.0	1.4	3.3	2.0	8.0 to 9.0 (t)
Fresh fruits and vegetables	7.9	-0.2	7.4	7.2	0.8	3.3	2.0	6.5 to 7.5
Fresh fruits	4.2	-0.9	6.6	8.1	-0.8	5.5	1.8	7.5 to 8.5 (t)
Fresh vegetables	3.7	0.5	8.3	6.1	2.6	1.1	2.1	6.0 to 7.0 (t)
Processed fruits and vegetables	2.5	0.6	15.9	11.0	3.5	2.9	2.2	11.5 to 12.5 (t)
Sugar and sweets	2.1	0.7	14.9	9.4	3.3	3.0	2.1	10.0 to 11.0 (t)
Cereals and bakery products	8.1	0.6	15.9	11.8	2.2	2.3	2.1	13.0 to 14.0
Nonalcoholic beverages	7.1	0.9	12.7	10.1	3.6	2.8	1.4	10.5 to 11.5 (t)
Other foods	12.6	0.8	14.4	11.8	3.1	2.2	1.5	12.5 to 13.5

USDA ERS: Food Price Outlook November 2022

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Drivers of Increased Food Prices

- Consumer demand high
 - Increasing wages due to labor shortages
 - Increased government spending
 - Pandemic savings
 - Consumer optimism
- Supply low
 - Increased costs
 - Labor shortages – increased wages
 - Shipping & transportation – shortages, fuel prices
 - Increasing input prices and shortages
 - Firms exiting the market

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CPI Food Projections 2022

Consumer Price Index item	Relative importance ¹	20-year historical average	Forecast range ² 2022	Forecast range ² 2023
	Percent	Percent change	Percent change	Percent change
All food	100.0	2.4	9.5 to 10.5	3.0 to 4.0
Food away from home	37.9	2.9	7.0 to 8.0	4.0 to 5.0
Food at home	62.1	2.0	11.0 to 12.0	2.5 to 3.5
Meats, poultry, and fish	12.9	2.9	9.5 to 10.5	2.0 to 3.0
Meats	8.1	3.2	8.0 to 9.0	1.5 to 2.5
Beef and veal	3.7	4.4	5.0 to 6.0 (-)	1.0 to 2.0
Pork	2.6	2.2	8.5 to 9.5	1.0 to 2.0
Other meats	1.8	2.2	13.5 to 14.5 (+)	2.0 to 3.0
Poultry	2.7	2.3	14.5 to 15.5	4.0 to 5.0
Fish and seafood	2.1	2.7	9.0 to 10.0	2.0 to 3.0
Eggs	1.0	3.2	29.5 to 30.5 (+)	2.0 to 3.0
Dairy products	5.9	1.7	11.5 to 12.5 (-)	3.0 to 4.0
Fats and oils	1.9	2.3	18.5 to 19.5 (+)	4.0 to 5.0
Fruits and vegetables	10.4	2.0	8.0 to 9.0 (+)	0.0 to 1.0
Fresh fruits and vegetables	7.9	2.0	6.5 to 7.5	-0.5 to 0.5
Fresh fruits	4.2	1.8	7.5 to 8.5 (-)	-0.5 to 0.5
Fresh vegetables	3.7	2.1	6.0 to 7.0 (+)	-0.5 to 0.5
Processed fruits and vegetables	2.5	2.2	11.5 to 12.5 (+)	3.0 to 4.0
Sugar and sweets	2.1	2.1	10.0 to 11.0 (+)	3.0 to 4.0
Cereals and bakery products	8.1	2.1	13.0 to 14.0	5.0 to 6.0
Nonalcoholic beverages	7.1	1.4	10.5 to 11.5 (+)	3.0 to 4.0
Other foods	12.6	1.5	12.5 to 13.5	3.0 to 4.0

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Producer Price Index - Food (Sales Price to Domestic Farmers/Ranchers)

Producer Price Index item	Month-to-month September 2022 to October 2022	Year-over-year October 2021 to October 2022	Year-to-date avg. 2021 to avg. 2022	Annual 2020	Annual 2021	20-year historical average	Forecast range ¹ 2022	Forecast range ¹ 2023
	Percent change	Percent change	Percent change	Percent change	Percent change	Percent change	Percent change	Percent change
Unprocessed foodstuffs and feedstuffs	-1.3	21.1	26.7	-4.1	25.0	3.8	NA	NA
Processed foods and feeds	-0.9	10.9	13.6	1.8	12.1	3.5	NA	NA
Finished consumer foods	0.7	13.0	12.8	1.4	6.3	2.5	NA	NA
Farm-level cattle	-0.6	16.3	17.1	-4.9	11.2	3.2	15.0 to 18.0	2.0 to 5.0
Wholesale beef	-5.0	-15.9	-3.5	2.4	25.5	4.5	-6.0 to -3.0 (-)	0.0 to 3.0
Wholesale pork	0.2	1.2	-1.8	2.6	16.7	2.4	-4.0 to -1.0	1.0 to 4.0
Wholesale poultry	-10.9	-2.1	19.5	-0.5	20.4	2.5	14.0 to 17.0 (-)	-3.0 to 0.0 (-)
Farm-level eggs	21.8	204.2	130.4	11.0	17.1	6.9	130.0 to 133.0 (+)	-37.0 to -34.0
Farm-level milk	-3.9	19.1	35.9	-4.4	0.9	2.7	30.0 to 33.0	-3.0 to 0.0
Wholesale dairy	0.9	17.9	18.1	0.3	1.8	2.1	16.0 to 19.0	1.0 to 4.0
Farm-level soybeans	-10.2	14.6	11.9	10.2	47.2	7.6	8.0 to 11.0 (-)	2.0 to 5.0
Wholesale fats and oils	-3.2	6.5	23.8	2.4	40.1	7.2	21.0 to 24.0	2.0 to 5.0
Farm-level fruits	11.5	34.5	16.1	2.0	5.3	2.4	15.5 to 18.5 (+)	0.0 to 3.0
Farm-level vegetables	22.4	45.8	32.3	3.5	-6.6	3.6	34.0 to 37.0 (+)	-1.5 to 1.5
Farm-level wheat	3.8	15.6	33.2	7.5	44.5	6.9	29.0 to 32.0	3.0 to 6.0
Wholesale wheat flour	3.2	12.2	22.5	1.1	19.2	4.6	23.0 to 26.0	3.0 to 6.0

USDA ERS: Food Price Outlook November 2022

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PPI Food Projections 2022

Producer Price Index item	Year-over-year October 2021 to October 2022	Annual 2021	20-year historical average	Forecast range ¹ 2022	Forecast range ¹ 2023
	Percent change	Percent change	Percent change	Percent change	Percent change
Unprocessed foodstuffs and feedstuffs	21.1	25.0	3.8	NA	NA
Processed foods and feeds	10.9	12.1	3.5	NA	NA
Finished consumer foods	13.0	6.3	2.5	NA	NA
Farm-level cattle	16.3	11.2	3.2	15.0 to 18.0	2.0 to 5.0
Wholesale beef	-15.9	25.5	4.5	-6.0 to -3.0 (-)	0.0 to 3.0
Wholesale pork	1.2	16.7	2.4	-4.0 to -1.0	1.0 to 4.0
Wholesale poultry	-2.1	20.4	2.5	14.0 to 17.0 (-)	-3.0 to 0.0 (-)
Farm-level eggs	204.2	17.1	6.9	130.0 to 133.0 (+)	-37.0 to -34.0
Farm-level milk	19.1	0.9	2.7	30.0 to 33.0	-3.0 to 0.0
Wholesale dairy	17.9	1.8	2.1	16.0 to 19.0	1.0 to 4.0
Farm-level soybeans	14.6	47.2	7.6	8.0 to 11.0 (-)	2.0 to 5.0
Wholesale fats and oils	6.5	40.1	7.2	21.0 to 24.0	2.0 to 5.0
Farm-level fruits	34.5	5.3	2.4	15.5 to 18.5 (+)	0.0 to 3.0
Farm-level vegetables	45.8	-6.6	3.6	34.0 to 37.0 (+)	-1.5 to 1.5
Farm-level wheat	15.6	44.5	6.9	29.0 to 32.0	3.0 to 6.0
Wholesale wheat flour	12.2	19.2	4.6	23.0 to 26.0	3.0 to 6.0

USDA ERS: Food Price Outlook November 2022

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Specialty Premiums

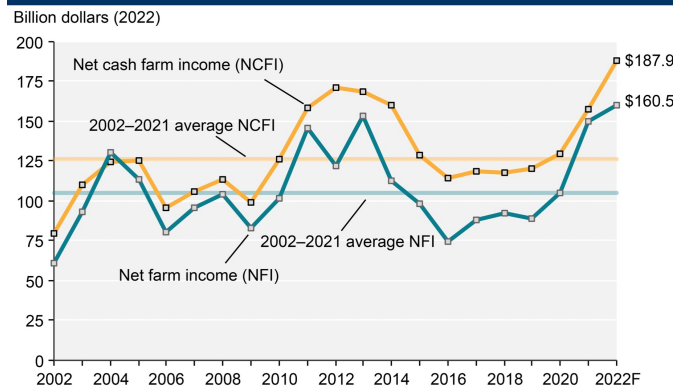
Grass Fed Beef - Direct to Consumer (Retail)					
Carcass Purchase Size		(\$/lb)	Avg		
Whole		5.99 - 11.09	7.97		
Half		6.10 - 11.69	8.63		
Quarter		6.25 - 11.69	9.15		
Item Description	(\$/lb)	Avg	Commodity Beef*	Grassfed Premium**	
Ribeye Steak	24.00 - 34.00	29.60	9.94	19.66	
Ribeye Roast	22.99 - 26.25	24.06	9.70	14.36	
Chuck Roast	9.00 - 13.50	11.23	4.98	6.25	
Flat Iron Steak	14.67 - 30.59	22.26	8.01	14.25	
Rump Roast	9.92 - 12.99	11.11	4.79	6.32	
Bottom Round Roast	9.00 - 12.00	10.07	5.06	5.01	
Filet Mignon	35.00 - 49.99	39.31	16.00	23.31	
Tenderloin	32.00 - 49.25	40.66	13.64	27.02	
Tri Tip	11.99 - 18.99	15.40	5.30	10.10	
Sirloin Steak	12.00 - 25.25	18.10	5.99	12.12	
Sirloin Roast	10.25 - 23.80	13.51	4.49	9.02	
Brisket	10.00 - 15.00	12.00	4.25	7.76	
Flank Steak	14.49 - 24.00	19.22	9.58	9.64	
Skirt Steak	12.00 - 23.80	15.57	8.84	6.73	
Short Ribs	7.79 - 11.00	9.61	7.20	2.41	
Stew Meat	8.80 - 12.00	10.39	6.19	4.20	

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Farm Income


U.S. net farm income and net cash farm income, inflation adjusted, 2002–2022F



Note: 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 December 1, 2022.

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Bottom Line – 2022

- Producer prices received increases the same or higher than consumer price increases
 - Highest price increases for milk, eggs, fruits, and vegetables
- High premiums remain for specialty/differentiated products (grass-fed beef example)
- USDA shows net farm income rose 13.8% in 2022 relative to 2021
- Net farm income in 2022 is 53.3% above its 20-year average (2002–2021) of \$104.7 billion in inflation-adjusted dollars

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Input Supply Prices/Shortages

The Fertilizer Shortage Will Persist in 2023

DEC 01, 2022 Shea Swenson

Farmers need improved access to fertilizer to avoid a food crisis, but high costs and low supply of fertilizer will continue for another year.

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Input Prices & Shortages

Why are we seeing supply chain issues?

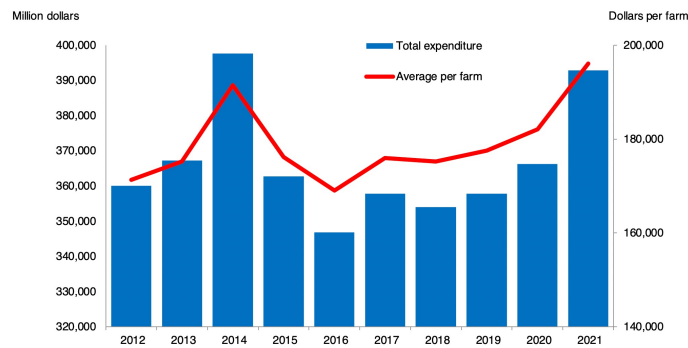
- Immense online ordering
 - Transportation capacity
- Over ordering
- Lack of packaging materials
- Labor shortages – increased wages
- Shipping/transportation stress
 - Cost of transportation due to fuel price increases
- Cost of fertilizers and other inputs
 - Fertilizer up 200-300%, bans on some fertilizer imports
 - For example, corn used in many products, lack of fertilizer is causing reductions in corn production

“I waited a year for my jars”

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Farm Production Expenses - Historical Totals & Averages

Farm Production Expenditures, Total, and Average Per Farm by Year – United States: 2012-2021



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Farm Production Expenses, 2020 vs. 2021

Farm Production Expenditures by Expenditure Category and Percent of Total – United States: 2020 and 2021

[For definitions of terms used in this table, see Terms and Definitions. Excluding Alaska and Hawaii. Totals may not add due to rounding]

Expenditure	2020		2021	
	(million dollars)	(percent)	(million dollars)	(percent)
Livestock, poultry, and related expenses	39,600	10.8	42,400	10.8
Feed	56,800	15.5	65,200	16.6
Farm services	44,700	12.2	45,000	11.5
Rent	30,100	8.2	32,000	8.1
Agricultural chemicals	16,500	4.5	17,800	4.5
Fertilizer, lime, and soil conditioners	24,400	6.7	29,500	7.5
Interest	9,900	2.7	8,700	2.2
Taxes	14,100	3.9	14,700	3.7
Labor	36,700	10.0	36,800	9.4
Fuel	11,100	3.0	12,900	3.3
Farm supplies and repairs	19,400	5.3	20,200	5.1
Farm improvements and construction	14,400	3.9	14,500	3.7
Tractors and self-propelled farm machinery	13,700	3.7	17,600	4.5
Other farm machinery	6,000	1.6	7,000	1.8
Seeds and plants	23,000	6.3	22,300	5.7
Trucks and autos	5,100	1.4	5,200	1.3
Miscellaneous capital expenses	700	0.2	1,100	0.3
Total farm production expenditures	366,200	100.0	392,900	100.0

Resources

- USDA ERS Food Price Outlook
 - <https://www.ers.usda.gov/data-products/food-price-outlook/>
- Federal Reserve Bank of St. Louis Economic Data
 - <https://fred.stlouisfed.org>
- US Wholesale Specialty Crop Prices
 - <https://www.ams.usda.gov/market-news/fruit-and-vegetable-terminal-markets-standard-reports>
- National Grass Fed Beef Report
 - <https://www.ams.usda.gov/mnreports/lsmngfbeef.pdf>

Questions?



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Thank you!

kynda.curtis@usu.edu

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