U.S. *DOMESTIC* *& FOREIGN*

GRAIN MARKET FACTORS

HEADING INTO YEAR 2023

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U.S. *DOMESTIC* GRAIN MARKET ISSUES

A. U.S. Dollar Exchange Rate Impacts

B. U.S. Rail Strike Averted – *Longer term issues*

C. Mississippi River System – *Low flows & less barge traffic*

D. U.S.-Mexico: GMO Corn Disagreement

E. EPA Renewable Fuels Standard (RFS) Guidelines

- *Ethanol & Biodiesel Impacts*

A. USD$ EXHANGE RATE IMPACTS

U.S. Dollar Index – 104.827

8 Dec 2022 - 104.827
Sep 2022 - 114.778

Off 9,5% from High

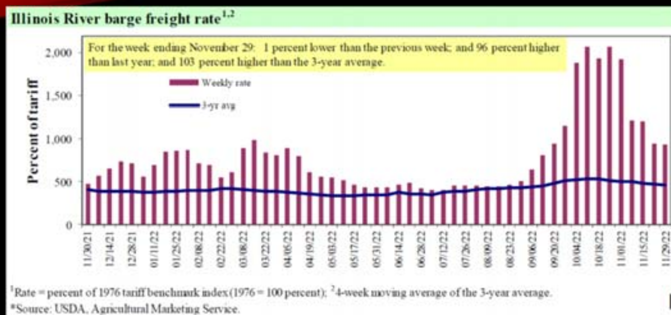
B. U.S. RAIL STRIKE AVERTED

Friday December 2nd President Joe Biden signed legislation Friday to block a national U.S. railroad strike that could have devastated the American economy.

The U.S. Senate voted 80 to 15 on Thursday to impose a tentative contract deal reached in September on a dozen unions representing 115,000 workers, who could have *gone on strike on December 9th.*

Rail service to the grain sector has struggled over the last 12 to 18 months…

C. MISSISSIPPI RIVER SYSTEM – LOW FLOWS
BARGE FREIGHT



- ❖ Reduced Draft,
- ❖ Reduced Load Capacity
- ❖ Reduced "Size" and "Speed' of Tows

Benchmark tariff rates

Calculating barge rate per short ton (2,000 lbs):

(Rate * 1976 tariff benchmark rate per ton)/100

- ➢ Low Water Level is restricting draft levels..
  (Every foot of draft restriction = 5,000 bu / 127 mts +/-)
- ➢ Need more barges to move the same amount of grain.
- ➢ Internal cash markets vs the River are in very strong "carries"; **giving the country elevator a strong incentive to carry harvest inventories forward to later months when freight I cheaper…**

IL RIVER FREIGHT

	12/6/2022	12/7/2022	
wk 12/4	900/950	900/950	UNC
wk 12/11	875/925	875/925	UNC
wk 12/18-12/25	850/900	850/900	UNC
Jan	900/950	900/950	UNC
Feb	800/850	800/850	UNC
Mar	750/800	750/800	UNC
April	650/750	650/750	UNC
May	600/650	600/650	UNC
June	500/550	500/550	UNC
July	500/550	500/550	UNC

Source: USDA GTR https://www.ams.usda.gov/sites/default/files/media/GTR10272022.pdf

D. U.S.-MEXICO GMO CORN DISAGREEMENT

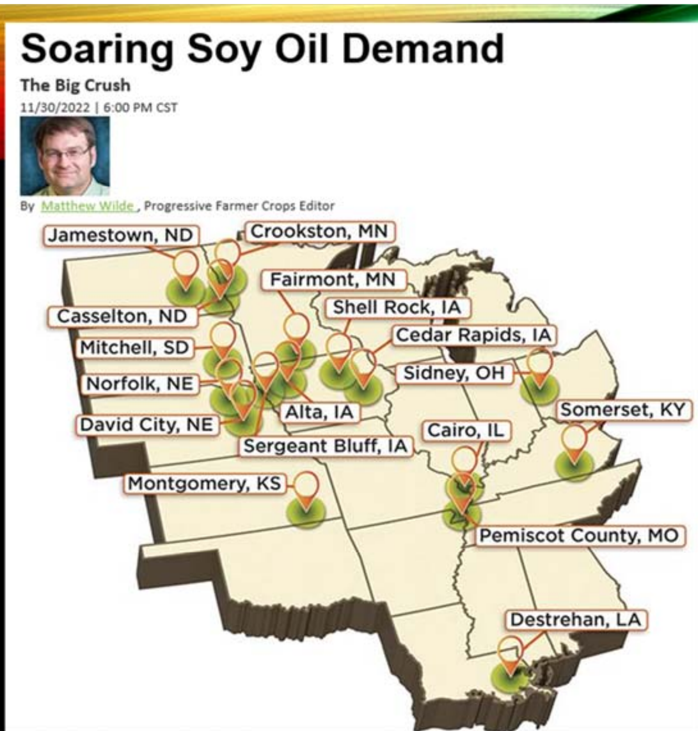
- **Mexico to rework decree on GM corn - minister** – Reuters, 12/7/2022
- **Mexico Will Struggle to Secure Non-GMO Corn Imports** – Jerry Gidell, 12/7/2022
- **Lula proposes pact to curb Brazilian soy linked to savanna deforestation** – Reuters 11/30/2022
- **Mexico seeking deal on its GMO corn ban with U.S.** - Reuters 11/29/2022

E. EPA RFS GUIDELINES – *BIODIESEL & ETHANOL*

- **Bunge expects U.S. renewable diesel capacity of about five billion gallons by 2024** – Reuters 12/7/2022
- **Diesel price pain seen easing as US EIA lowers 2023 oil, refined product price outlooks** – EIA 12/6/2022
- **US Biodiesel Credit Prices Plunge Due to Policy Weakening:** – BNEF 12/5/2022
  - Proposed quotas for bio-based diesel increase 6% by 2025
  - Production is expected to more than double in that time

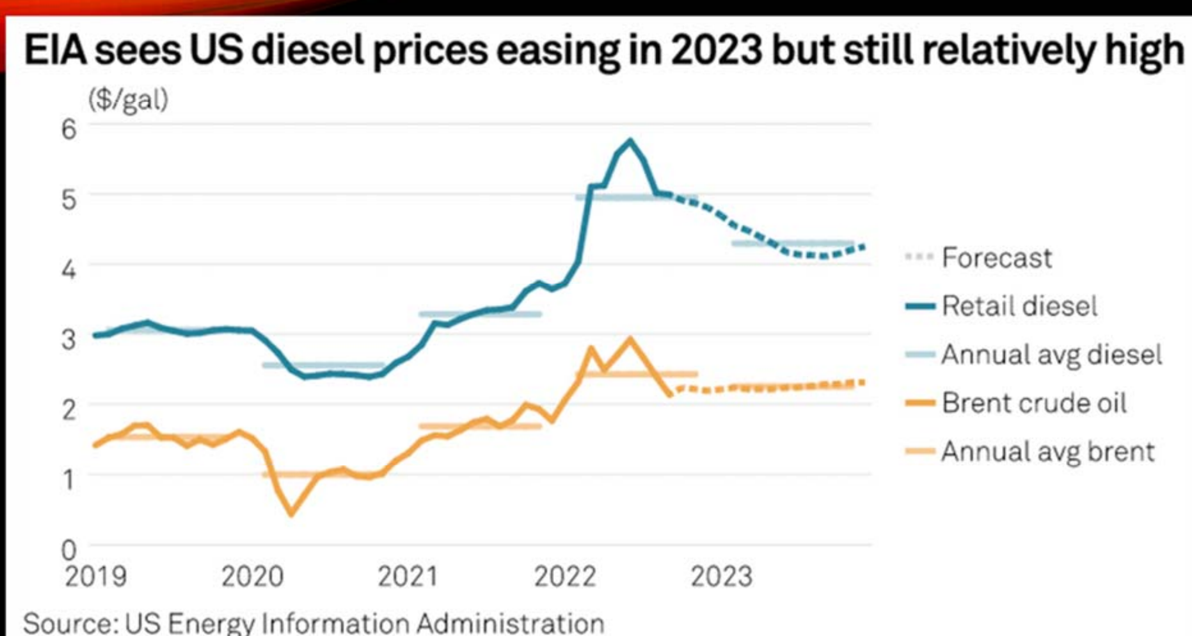
E. EPA RFS GUIDELINES – *BIODIESEL & ETHANOL*

- **US EPA proposes higher biofuel blending volumes, EV program - Reuters News** – Reuters 12/1/2022
- **Biden Proposes Major Overhaul of Biofuel Law to Boost EV Makers 2022-12-01** – Bloomberg 12/1/2022
- **Global renewable capacity growth set to double over next five years, says IEA** – Reuters 12/6/2022



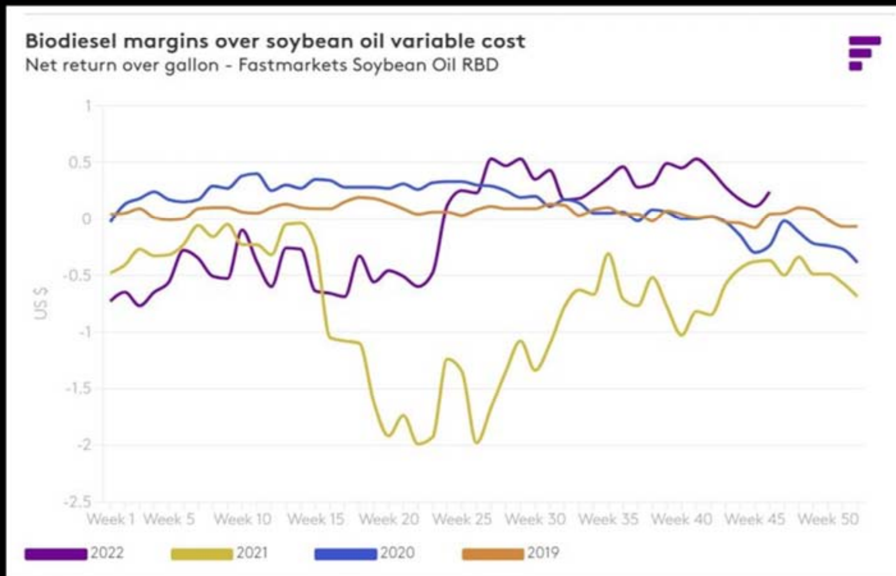
RENEWABLE DIESEL BOOM

- Renewable diesel production capacity has exploded. It nearly doubled from 971 million gallons per year in May 2021 to 1.92 billion gallons in May 2022, according to the U.S. Energy Information Administration (EIA).



Lower soybean oil price boosts biodiesel margins – Robert Lane, 11/24/2022

- Crude degummed soybean oil margins increased by 6.7 percent

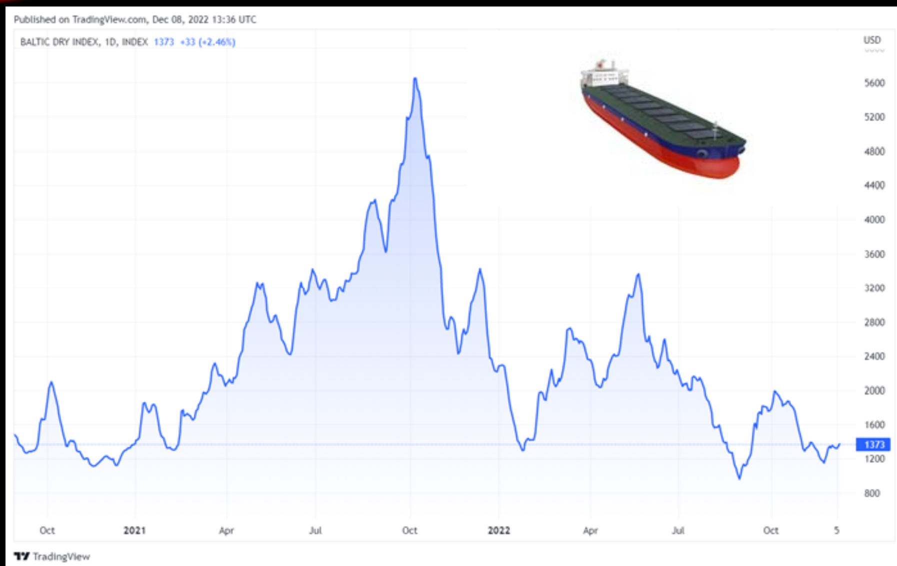


GLOBAL GRAIN MARKET ISSUES

A. Ocean Freight
B. U.S. Export Trends
C. Agricultural Trade Trends
D. China Economic &
E. South America Crops & Markets – *Brazil & Argentina*
F. Australia Grain Exports – *Wheat crop size vs quality*
G. European Union Imports & Crop Production

- *Natural Gas Supplies & Fertilizer Usage*

OCEAN FREIGHT OVERVIEW
LONDON BALTIC EXCHANGE



Dry Bulk Index – 1373

23rd May 2022 - 3369
26 January 2022 - 1296
8th October 2021 - 5650
19th January 2021 - 1644

- Freight market trading lower on waning demand *(Global Recession)*
- Higher fuel costs in combination with tighter emission regulations
- 24th February Russia invades Ukraine
- October 2021 Ocean Freight has rallied to a thirteen year highs

Source: Trading View - https://www.tradingview.com/chart/?symbol=INDEX%3ABDI

OCEAN FREIGHT OVERVIEW
LONDON BALTIC EXCHANGE

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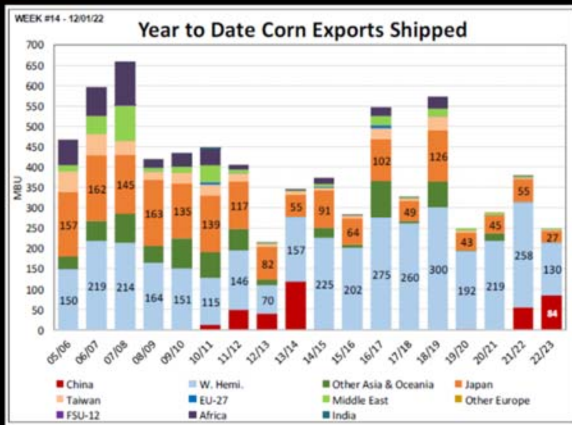
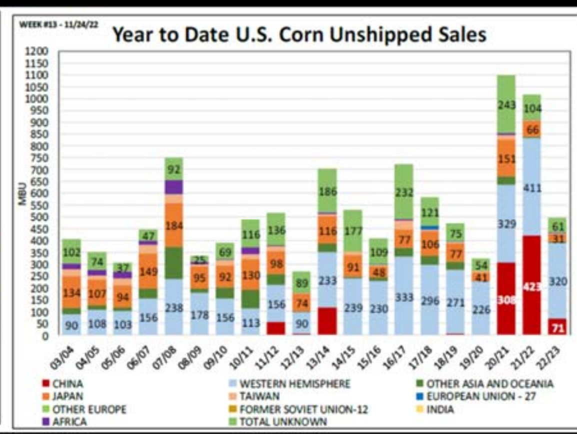
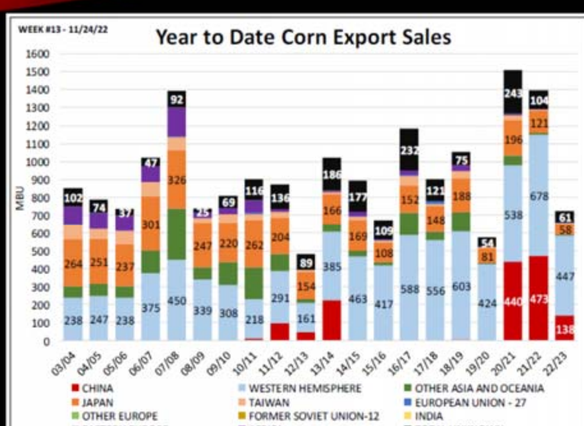
TRADE OVERVIEW
U.S. EXPORTS AND SALES - CORN

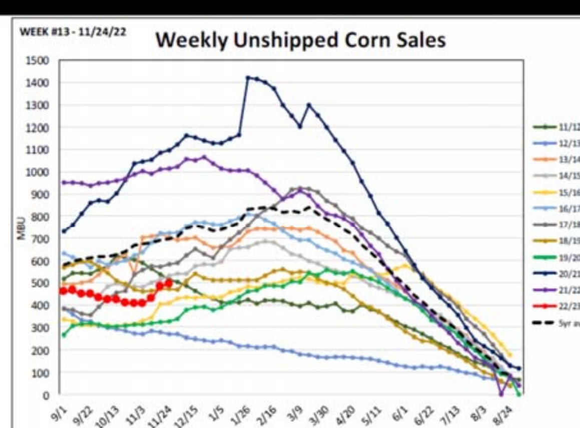




- EXPORT SHIPMENTS – Corn: 20.6 TW; 12.3 LW; 31.0 LY; 40-88 Expected Range; 48.7 Needed. 22/23 YTD Shipments: 250 TY; 371 LY.
  DESTINATIONS: Mexico, 9.0 TW/8.2 LW; OW Hemi, 340 K/1.0; Japan, 0 K/0 K; Taiwan, 240 K/260 K; AFR, 0 K/0 K; S KO, 10 K/0 K; Mid-East/Other Asia, 20 K/0; EU, 0 K/0 K; China, 11.0/2.8.
  PORT ACTIVITY: Miss River, 9.1/5.5; Col River, 2.7/0; Puget Sound, 0/0; Interior, 8.5/6.4; N TX, 337 K/0 K; Lakes, 0 K/0 K; ATL, 0 K/0 K; Calif, 0 K/10 K.K
- EXPORT SALES – Corn: 23.7 TW; 72.8 LW; 40.2 LY; 19 - 39 Expected Range; 35.7 Needed. YTD Sales: 722 TY; 1,395 LY; OS: 495 TY; 1,015 LY.
  Disappointing towards the lower end of the range.

TRADE OVERVIEW
U.S. EXPORTS AND SALES - CORN





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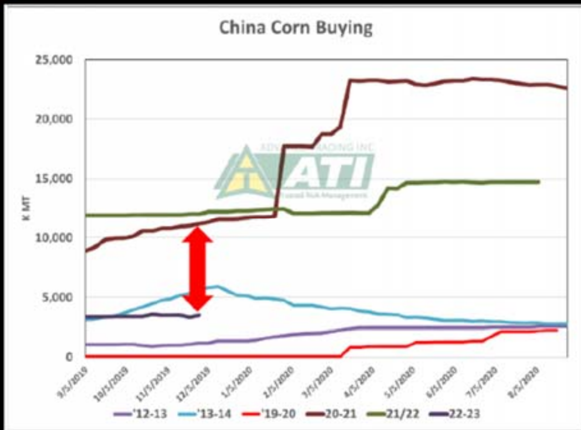
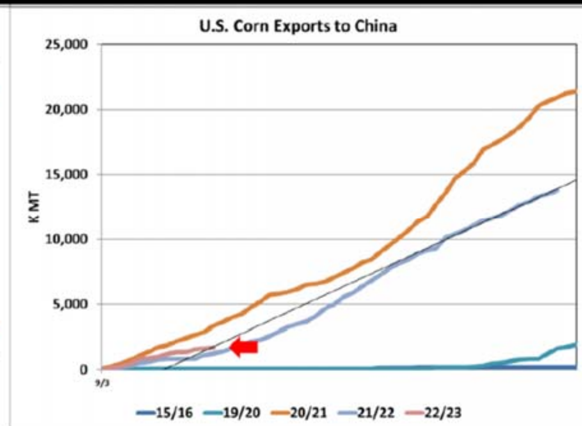
TRADE OVERVIEW
U.S. EXPORTS AND SALES – CORN TO CHINA





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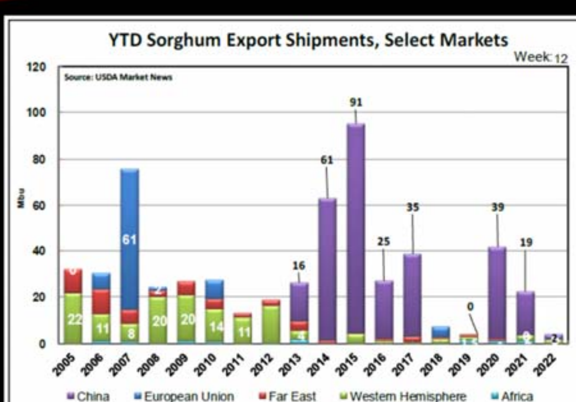
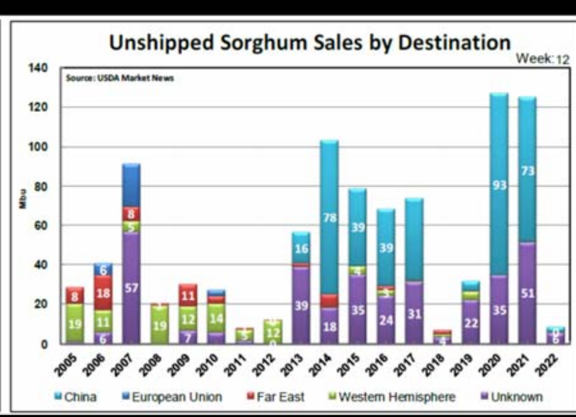
TRADE OVERVIEW
U.S. EXPORTS AND SALES – GRAIN SORGHUM

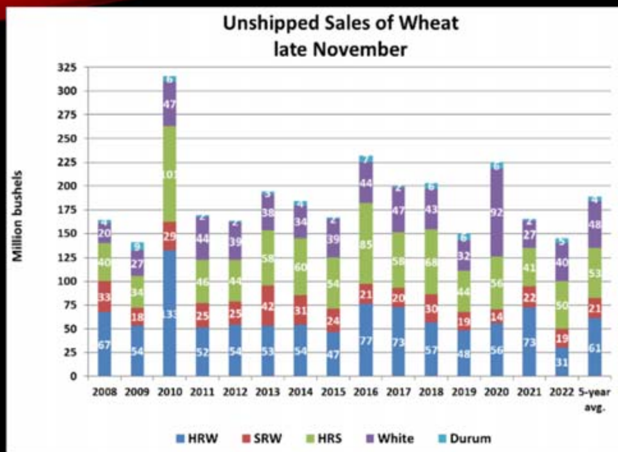




- EXPORT SHIPMENTS – Grain Sorghum: 2.96 TW; 0.12 LW; 6.7 LY; 4.1 Needed. 22/23 YTD Shipments: 13.9 TY; 43.9 LY. DESTINATIONS: China, 2.8/0; Mid-East, 0 K/0 K; Africa, 0/; Mexico, 115 K/120 K; EU, 0/0; Japan, 0 K/0 K. Weekly Fundamental Review – December 5, 2022
  PORT ACTIVITY: ATL, 0/0; Miss River, 0 K/0; S TX, 2.6/0; N TX, 0/0; Col Riv, 0/0; Puget Sound, 0/0; Cal, 0 K/0 K; Interior, 136 K/113 K..
- EXPORT SALES – Grain Sorghum: SORGHUM SALES – 0.20 TW; (0.08) LW; 11.2 LY; 4.0 Needed. YTD Sales: 14 TY; 159 LY; OS: 10 TY; 129 LY.
  Disappointing as Australia and Argentina supplies are available.

TRADE OVERVIEW

U.S. EXPORTS AND SALES - WHEAT



HRW: Unshipped sales of HRW as of Nov. 24th totaled just 31 million bushels, which is down 58% compared to last year and 45% below two years ago. It is also 50% below the 5-year average of 61.

HRW liftings forecast at 3-5 mbu.

SRW: Unshipped sales of SRW stood at 19 million bushels as of Nov. 24. That's dn 12% from last year, up 34% from 2 years ago but 8% below the 5-year avg. SRW is pegged at 1-2 mbu.

HRS: Unshipped sales of HRS of 50 mbu are up 23% vs. last year but dn 10% compared to two years ago. HRS shipments are est. at 3-5 mbu.

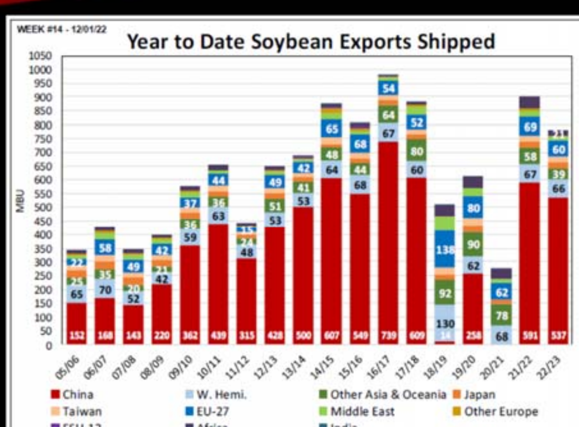
This year's total is also 5% below the 5-year average.

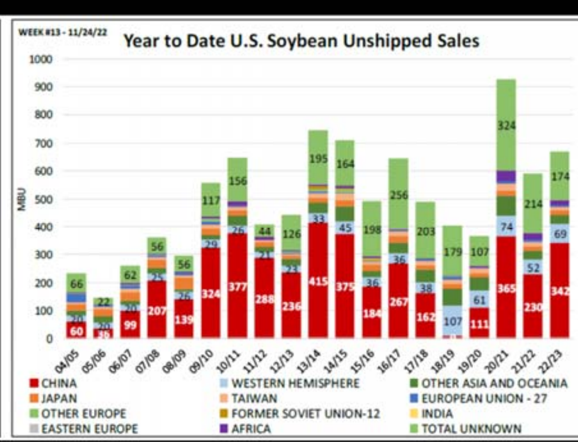
Near-term export projection remains at 10-15.

- EXPORT SHIPMENTS – Wheat: 12.3 mbu TW vs. 10.5 LW, 9.1 LY, 14.4 BOY, but above the top end of the trade range of 6-11. By class: HRW, 2.9 (vs. BOY of 3.6); SRW, 0.0 (2.6); & HRS, 3.0 (4.7).
  DESTINATIONS: Other Asia & Oceania 5.4 mbu; Western Hem 3.0 mbu; Africa 2.3; Japan 1.3.
  PORT ACTIVITY: (000 bu) HRS: Duluth-Sup 314; Col Riv 2181; & Int 535. HRW: N TX 1102; Col Riv 575; & Int 1222. SRW: Chicago 22. White: Col Riv 5135; & Int 11.
- EXPORT SALES – Corn:

TRADE OVERVIEW

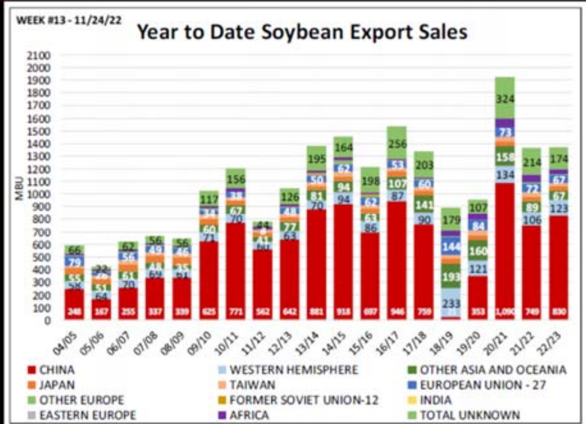
U.S. EXPORTS AND SALES - SOYBEANS

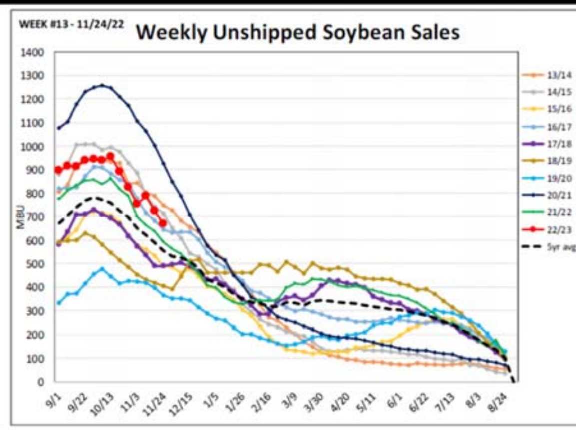




- EXPORT SHIPMENTS – Soybeans: 63.3 TW; 81.8 LW; 87.1 LY; 40-88 Expected Range; 32.5 Needed. 22/23 YTD Shipments: 778 TY; 873 LY.
  DESTINATIONS: EU, 1.6/13.1; China, 45.1/61.8; Japan, 420 K/20 K; Other Asia/Mid-East, 6.2 mbu/3.5; Mexico, 3.3/1.2; Other W Hemi, 920 K/1.1; Africa, 2.3/0.
  PORTS: Miss River/East Gulf, 26.7/47.5; PNW, 25.0/17.4; Interior, 4.2/2.7; ATL, 2.6 mbu/5.0; Lakes, 2.7/1.7; N TX, 2.1/0.
- EXPORT SALES – Soybeans: 25.5 TW; 25.4 LW; 39.1 LY; 20 - 37 Expected Range; 16.9 Needed. YTD Sales: 1,370 TY; 1,366 LY; OS: 670 TY; 591 LY.

TRADE OVERVIEW
U.S. EXPORTS AND SALES - SOYBEANS





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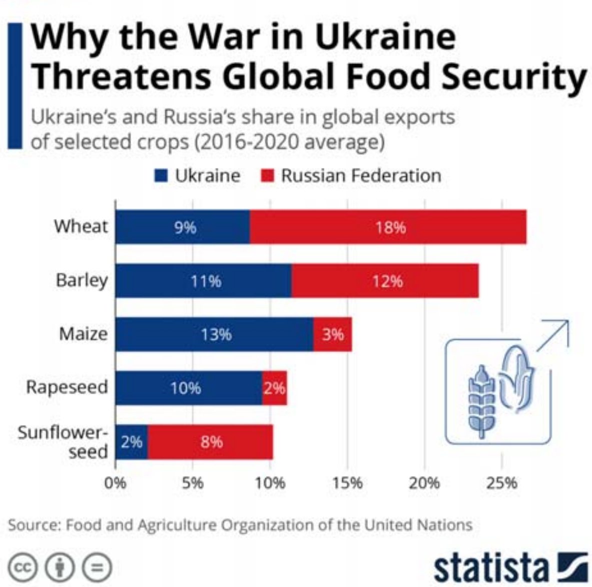
GEO-POLITICAL ISSUES ARISING: RUSSIA - UKRAINE



Phase 1: Invasion of Ukraine (24 February – 7 April) – Russia sets out to conquer Ukraine and replace its government. The West reacts by imposing comprehensive financial and trade sanctions on Russia.

Phase 2: Southeastern front (8 April – 5 September) – Russia refocuses on the east, as Ukraine launches counteroffensives in the north and south, taking back more than 1,000 settlements. The US and UK send advanced missile systems to Ukraine.

- **19 June 2022, Global food crisis looms as Ukraine struggles to export its grain after Russian invasion**
- 3 July 2022, Ukraine has introduced export licenses for key agricultural commodities, and the country's state-run railway said it will move those exports by rail as the nation remains under siege from Russia's military invasion,

Phase 3: Ukrainian counteroffensives (6 September – present) – Russia re-expands its goals to include Kherson and Zaporizhia. Ukraine uses missiles to devastate Russian ammunition, bases and command posts deep behind the front lines.

- **22 July 2022: Russia and Ukraine sign a UN-brokered agreement allowing the export of Ukrainian grain through the Black Sea.**
- **1 August 2022, The first ship loaded with Ukrainian grain leaves port following a July 22 agreement to lift a Russian blockade.**
- **31 October 2022, World food supplies at risk as Russia withdraws from Black Sea deal**
- **2 November 2022, Russia Resumes Ukraine Grain-Export Deal in Abrupt Reversal**

No resolution to the conflict currently in sight, most likely to continue to escalate!

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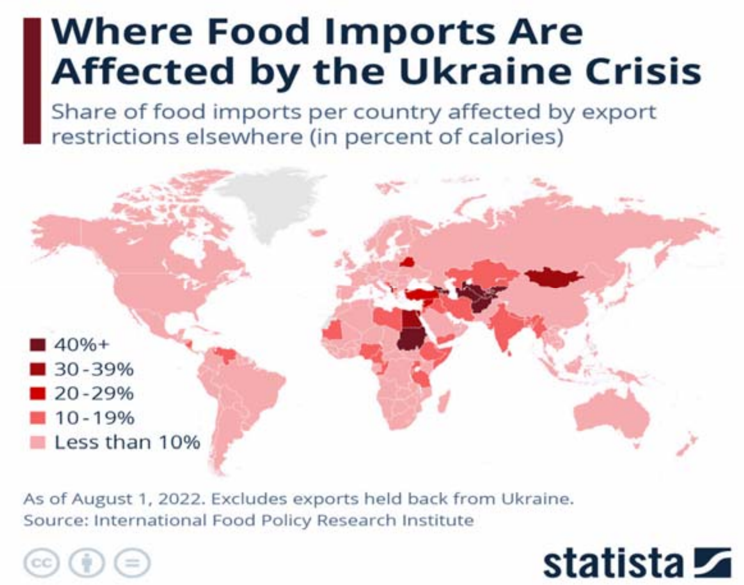

C. CHINA ECONOMY & AG TRADE

- **China set to loosen COVID curbs after week of historic protests** – Reuters 12/1/2022
- **China's trade suffers worst slump in 2-1/2 yrs as COVID woes, feeble demand take toll** – Reuters 12/7/2022
- **China's Nov soybean imports drop on logistics hurdles** – Reuters, 12/7/2022
- **China Ramps Up Corn Purchases From Brazil as US Exports Decline** – Estaban Moscariello - Bloomberg, 12/7/2020

C. CHINA ECONOMY & AG TRADE

- **China's reopening to reverberate around global markets** – FT.com 12/7/2022
  - o Speedy growth could renew commodities & intensify inflationary pressure
- **Asian corn import demand unlikely to see sharp increase next year,** USGC 11/30/2022

D. SOUTH AMERICA CROPS & MARKETS

- **Brazil grain crop to reach a record 312.2 mln tns in 2022/23, Conab says** – Reuters, 12/8/2022
- **Soy-dollar II: more than 2 million tons were sold in 6 days in Argentina** – Estaban Moscariello, 12/6/2022
- **Record Argentina Freight rise this year** - Agrofy news 12/6/2022
- **Fertilizer production is paralyzed in Argentina** – Agrolink, 11/30/2022
- **Brazil: Strikes in the Agricultural Sector** – Epoch Times, 12/1/2022

D. SOUTH AMERICA CROPS & MARKETS

- **Cargill Says Tough to Extend EU Amazon Soy Rules Across Brazil** – Jerry Gidel, 12/8/2022
- **Argentina's soybean area forecast could fall due to drought - grains exchange** – Reuters, 12/7/2022
- **Argentine drought hit wheat exports to reach lowest level in years** – Jerry Gidell 12/5/2022
- **Brazil Soybeans Crop to Rise to 155m Tons: StoneX** – Gidell, 12/2/2022

E. AUSTRALIA GRAIN EXPORTS

ABARES Forecast

- **Wheat 36.6 mmts**
  The wheat figure is up 14% from the previous estimate released in September of 32.2 mmts
  Breaks the national production record set in 2021-22 of 36.3 mmts.
  Quality yet to be determined, but likely to see n increased volume of feed wheat, most to be consumed domestically.

- **Barley 13.4 mmts**
  Barley is up 10% on the previous estimate of 12.3 mmts
  Expected to be fourth-largest crop on record for barley, with its area being down on last year's compared with increases for wheat and canola.

- **Canola 7.3 mmts**
  The canola estimate is up 11pc from 6.6Mt forecast in September, and breaks last year's record of 6.8Mt.

- **Grain Sorghum (Summer Crop) 2.6 mmts**
  Sorghum production is forecast to reach the 4th highest on record at 2.628 mmts, remaining 4% below the record production of last season 2.733 mmts with exports of 1.6 mmts.

E. AUSTRALIA GRAIN EXPORTS

- **Price, supply factors boost viability of corn-feed wheat substitution in Asia** – S&P Platts 12/6/2022
- **Feed wheat supply boosted by Australian bumper crop** – S&P Platts 12/6/2022
- **Australia forecasts record wheat crop despite floods** - Reuters 12/5/2022

F. EU IMPORTS & CROP PRODUCTION

- **EU agrees law preventing import of goods linked to deforestation** – Reuters, 12/6/6022
- **Food security: the Commission addresses the availability and affordability of fertilisers in the EU and globally** – EU 11/9/2022
- **EU farmers slam Commission's 'empty' fertilisers plan** – Euractiv.com 11/10/2022
- **Europe's Other Crisis: Fertilizer Shortage For Farming** – Forbes, 9/19/2022

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