

Ukraine agriculture in wartime: one-year results

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OUTLINE:

- Current stage of Ukrainian agriculture after the year of the war
- Wheat market
- Flour market
- Corn market





As of January 2023, the total amount of documented *damage* to Ukraine's *infrastructure* is estimated at **\$140.2 billion** (at replacement cost).

The *direct losses of agricultural producers* are estimated at **\$7,832.4 million**. The biggest losses are in agricultural machinery, finished products, grain storages. The *indirect losses in Ukrainian agriculture* reached **\$30,237.9 million**. The biggest losses are in the crop production and price reduction.

Since the beginning of the war, **8,173** civilians killed (among them **492** are children) and **13,620** civilians been wounded (among them **968** are children). More than **16,000** children are illegally deported to Russia. (United Nations, as of March 5, 2023)

CHANGES IN AGRICULTURE FOR THE YEAR OF THE WAR IN UKRAINE (2022 to 2021)

PRODUCTION

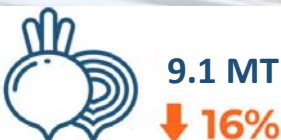
Grain



Oil seeds



Sugar beets



Meat, all types



Milk



Eggs

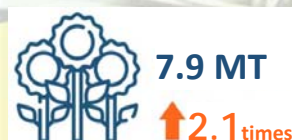


EXPORT

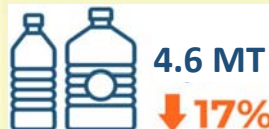
Grain



Oil seeds

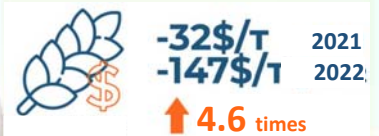


Vegetable oil



THE PRICE GAP BETWEEN THE WORLD AND DOMESTIC PRICES AT THE END OF THE YEAR

Wheat

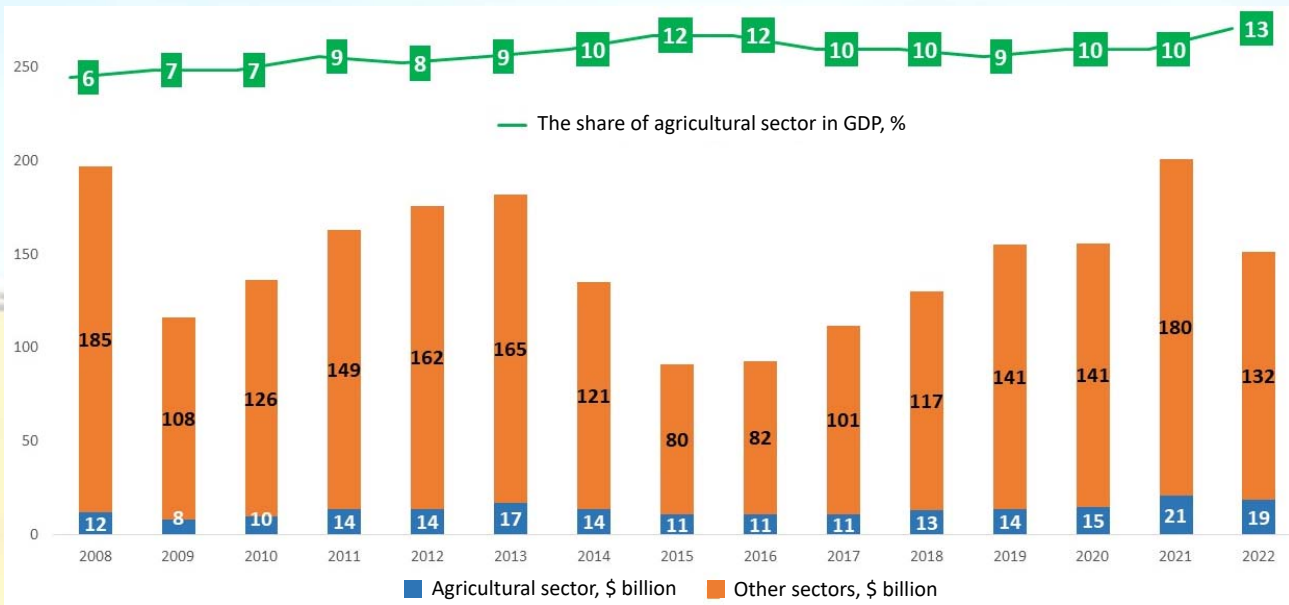


Corn



Source: based on data of Ministry of Agrarian Policy and Food of Ukraine, State Customs Service of Ukraine and UCAB

THE ROLE OF AGRICULTURAL SECTOR IN THE UKRAINIAN GDP



Source: based on the data of the State Statistics Service in Ukraine and Ukrainian Grain Association

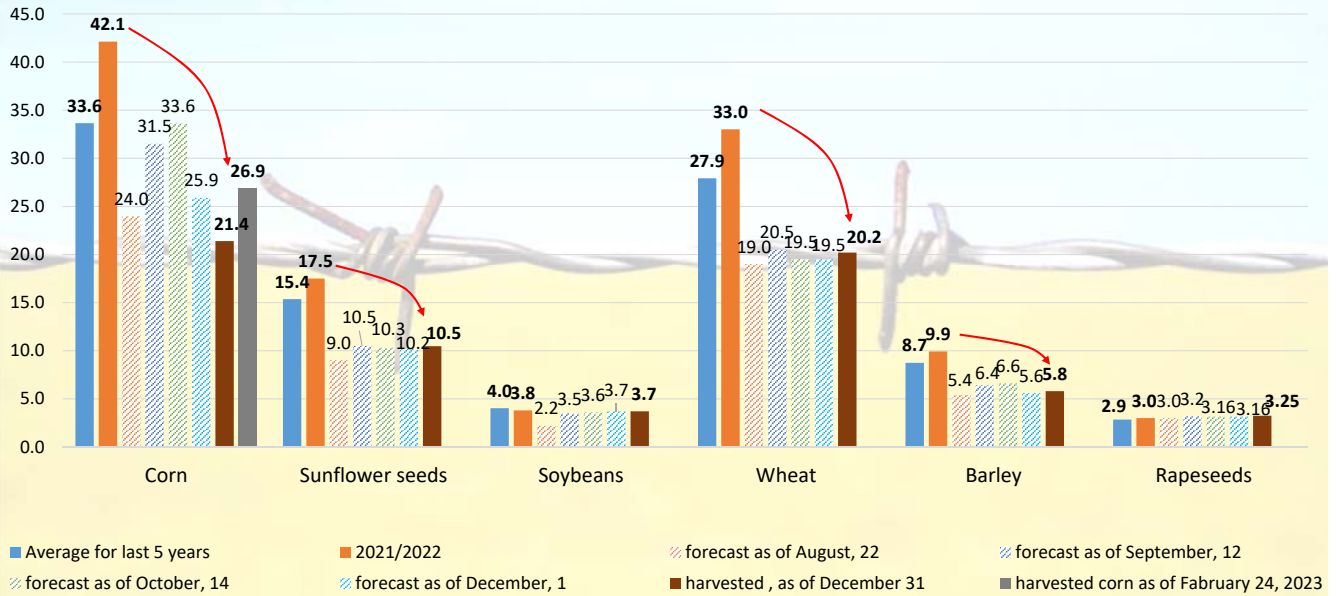
PROGRESS OF FIELD WORK IN UKRAINE Harvesting of grain, legumes and oil crops as of February 28, 2023

Crops	Harvested 2021, thousand hectares	Forecast 2022, thousand hectares	Harvested 2022, thousand hectares	% of harvested area to forecast 2022	% of harvested area 2022 to harvested area 2021	Harvested 2022, thousand metric tonnes	Average 2022 yields, metric tonnes per hectare	Average 2021 yields, metric tonnes per hectare	Change in yields per hectare 2022 to 2021, %
Grain and legumes total, including:	15,299.2	11,165.3	10,944.8	98.0%	71.5%	53,386.6	4.88	5.50	-11.5%
•wheat	7,073.0	4,983.3	4,979.4	99.9%	70.4%	20,176.3	4.05	4.64	-12.7%
•barley	2,467.7	1,667.6	1,666.5	99.9%	67.5%	5,778.0	3.47	3.92	-11.5%
•peas	240.4	118.1	118.1	100.0%	49.1%	269.1	2.28	2.43	-6.2%
•buckwheat	84.2	118.0	115.9	98.2%	137.6%	158.5	1.37	1.30	5.4%
•millet	77.9	45.2	44.7	98.9%	57.4%	101.8	2.28	2.52	-9.5%
•corn	5,356.0	4,233.1	4,020.1	95.0%	75.1%	26,902.9	6.69	8.01	-16.5%
Soybeans	1,279.5	1,542.6	1,537.0	99.6%	120.1%	3,740.4	2.43	2.68	-9.3%
Rapeseed	1,013.9	1,135.7	1,134.8	99.9%	111.9%	3,245.3	2.86	2.95	-2.0%
Sunflower	6,482.4	4,865.7	4,825.5	99.2%	74.4%	10,534.9	2.18	2.52	-13.9%

Source: based on the data of the State Statistic Service of Ukraine



ESTIMATED AND ACTUAL HARVEST IN UKRAINE as of February 28, 2023, million metric tonnes



Source: based on the data of the Ukrainian Agribusiness Club and USDA

PRODUCTION AND EXPORT OF GRAIN, LEGUMES AND OILSEEDS IN UKRAINE, thousand metric tonnes



Source: based on the data of the State Statistics Service in Ukraine and Ukrainian Grain Association

EXPORT OF CEREALS and LEGUMES
with products of their processing as of February 28, 2023,
thousand tonnes

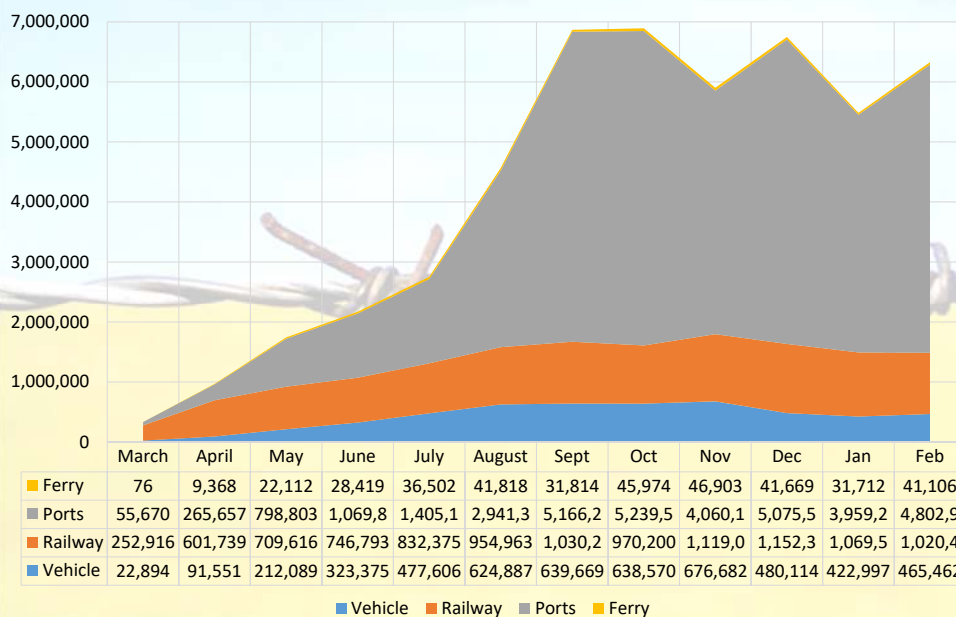
	2020/2021 MY Total	2021/2022 MY			2022/2023 MY	
		Total	As for February 2022	including for February 2022	Total as for Feb. 2023	including for February 2023
Cereals and legumes, total	43939	48508	43515	5045	32286	5207
• wheat	16413	18741	18092	1041	11338	1609
• barley	4210	5752	5636	154	2050	232
• rye	15.8	161.9	161.9	5.4	16.1	3.0
• corn	22596	23535	19331	3813	18604	3336
Wheat flour	123.7	69.4	66.6	4.1	94.9	16.3
Other flour	1.1	1.5	1.4	0.3	4.0	0.2
<i>Total flour</i>	<i>124.8</i>	<i>70.9</i>	<i>68.0</i>	<i>4.4</i>	<i>98.9</i>	<i>16.5</i>
Total export (grain + flour)	44105	48579	43583	5050	32385	5224

Dynamics of grain exports from Ukraine, thousand tonnes



Source: based on data of State Customs Service of Ukraine

BORDER-CROSSING OF AGRICULTURAL PRODUCTS FROM UKRAINE IN TRANSPORTATION BREAKDOWN,
March 1, 2022 – February 28, 2023, metric tonnes



Total
50,753,796
metric tonnes

Ferry 377,474

Ports 34,840,154

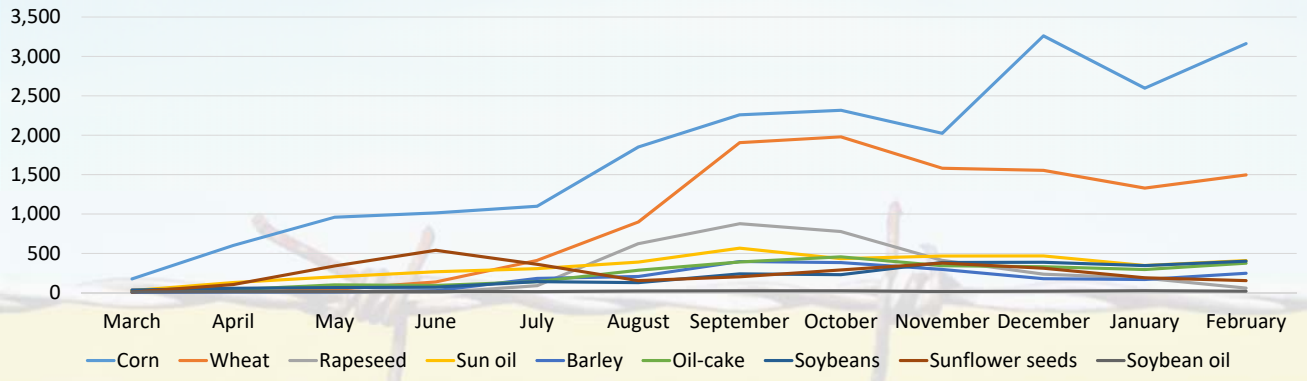
Railway 10,460,272

Vehicle 5,075,896

■ Vehicle ■ Railway ■ Ports ■ Ferry

Source: Ministry of Agrarian Policy and Food of Ukraine
Ministry of Infrastructure of Ukraine

BORDER-CROSSING FROM UKRAINE DURING THE WAR TIME BY TYPES OF AGRICULTURAL PRODUCTS, March 1, 2022 – February 28, 2023, thousand metric tonnes



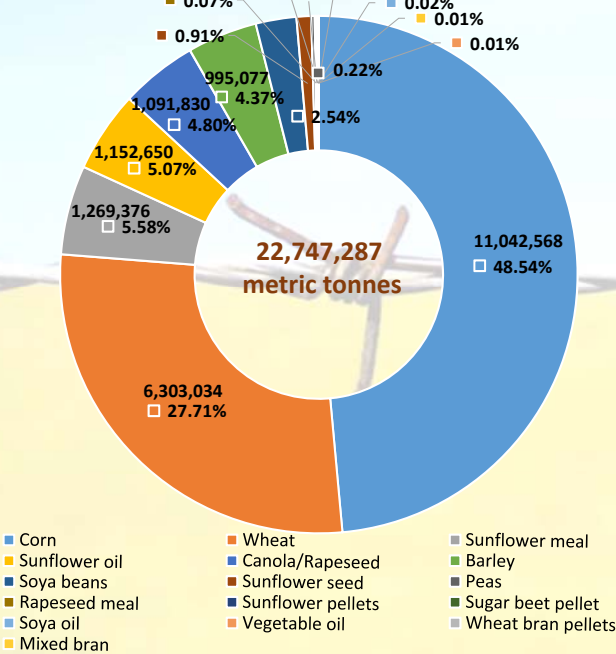
**Total
50,753,796
metric tonnes**

Corn	21,322,199
Wheat	11,383,368
Sunflower oil	4,016,633
Rapeseed	3,264,279
Sunflower seeds	3,264,279
Oil-cake	2,884,550
Soybeans	2,490,954
Barley	2,118,633
Soybean oil	235,802

Source: Ministry of Agrarian Policy and Food of Ukraine
Ministry of Infrastructure of Ukraine

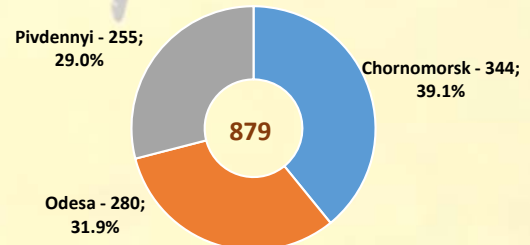
EXECUTION OF THE AGREEMENT "Initiative for the safe transportation of grain and food products from Ukrainian ports"

Tonnage structure by commodities, %



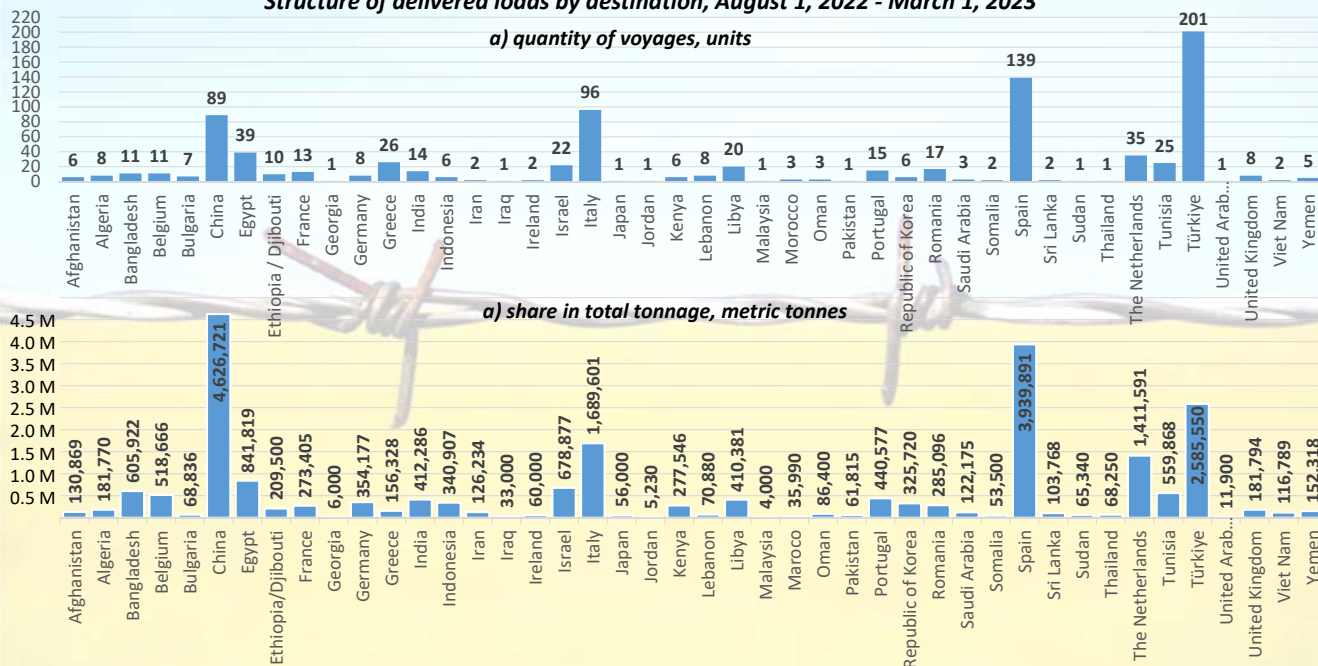
As of March 1, 2023, **879 shipments (777 vessels) of 22,747,287** metric tonnes of grains and other foodstuffs have left Ukrainian ports. The ending day of the "Black Sea Grain Initiative" is **19 March, 2023**.

Number of grain cargoes left Ukrainian Black Sea ports under "grain agreement"



Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre

EXECUTION OF THE AGREEMENT "Initiative for the safe transportation of grain and food products from Ukrainian ports"
Structure of delivered loads by destination, August 1, 2022 - March 1, 2023



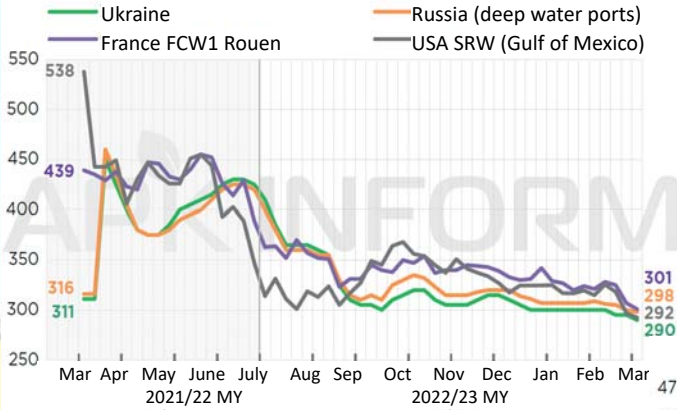
Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre

BALANCE OF SUPPLY AND DEMAND OF GRAIN AND LEGUMES IN UKRAINE (*forecast as of February 7, 2023)

	2020/21	2021/22	2022/23	Deviation, %	
	thousand tonnes	thousand tonnes	thousand tonnes	2021/22 to 2020/21	2022/23 to 2021/22
Initial stocks	4,216	4,811	12,454	+14.1%	in +2,6 times
Sown area, thousand hectares	15,392	15,995	13,997	+3.9%	-12.5%
Harvested area, thousand hectares	15,283	15,948	11,435	+4.4%	-28.3%
Yield, tonnes / hectare	4.25	5.39	4.58	+26.8%	-15.0%
Gross harvest	64,933	86,010	52,419	+32.5%	-39.1%
Import	208	123	127	-40.8%	+3.0%
Total supply	69,358	90,945	65,000	+31.1%	-28.5%
Domestic consumption:	19,184	26,282	19,069	+37.0%	-27.4%
food	4,775	4,592	4,074	-6.5%	-11.3%
fodder	9,720	13,325	9,655	+37.1%	-27.5%
seeds	2,224	1,928	2,109	-13.3%	+9.4%
losses	1,515	5,692	2,216	in +3,8 times	-61.1%
other (alcohol, malt, starch, etc.)	946	737	1,005	-8.5%	+36.4%
Export	45,363	52,209	39,205	+15.1%	-24.9%
Total distribution (demand)	64,547	78,491	58,274	+21.6%	-25.8%
Ending stocks	4,811	12,454	6,726	in +2,6 time	-46.0%
Ratio of ending stocks to distribution	7%	16%	12%		

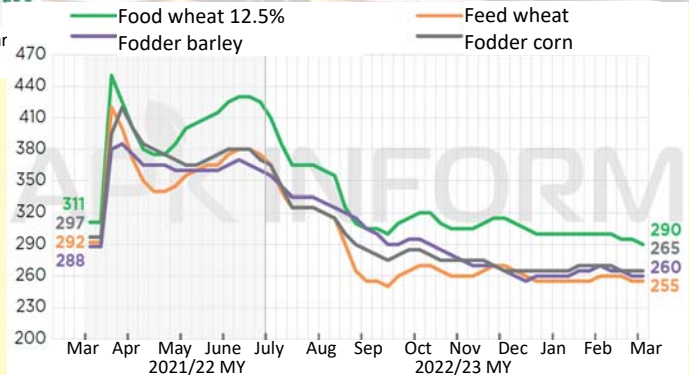
Source: based on "APK-Inform", the State Statistic Service of Ukraine and the State Customs Service of Ukraine

Dynamics of food wheat prices, USD/t



IMPACT OF THE WAR ON GRAIN PRICES

Export prices for grain in Ukraine (deep water ports), Offer, FOB, USD/t

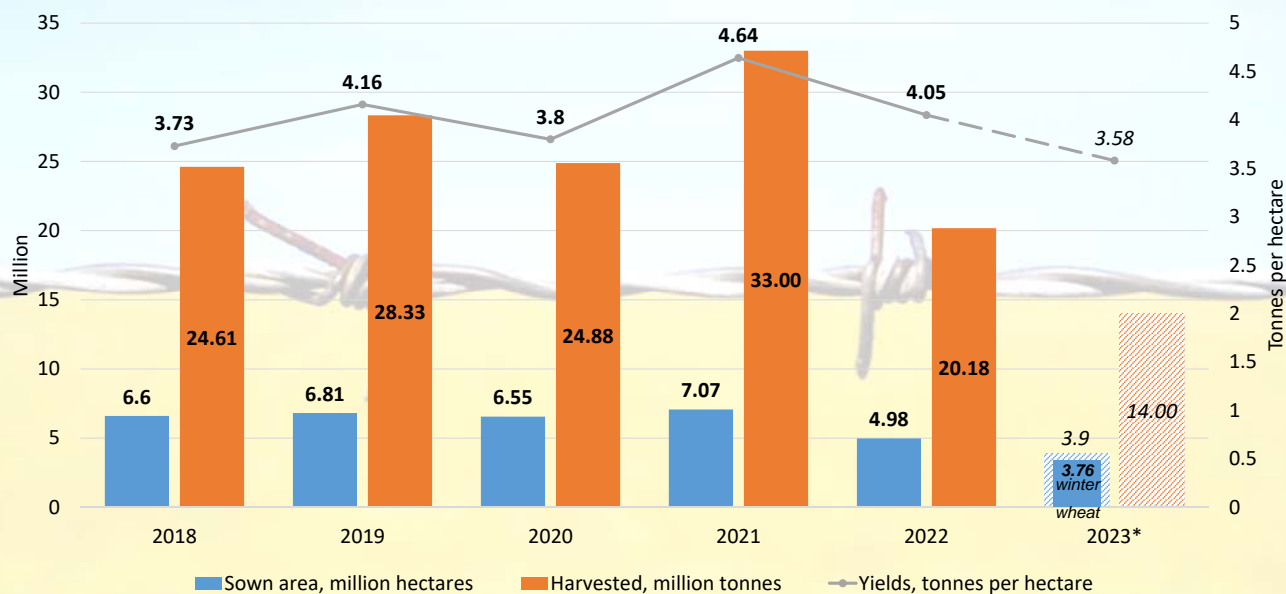


WORLD GRAIN PRICES, USD/t

Commodity	Stock/ month	Country of origin	Terms of delivery	March 3	Feb 24	Feb 17	Feb 10	week. change,	
								USD/t	%
The futures market									
Wheat	CBOT, March	USA	EXW	255.6	260.2	281.2	288.8	-4.6	-1.8%
Wheat	CBOT, March	Black Sea	FOB	296.8	300.3	301.0	302.3	-3.5	-1.2%
Milling wheat	Euronext, March	France	CPT Rouen	289.7	296.7	315.4	319.2	-7.0	-2.4%
Wheat	LIFFE, May	EU	EXW	272.4	273.3	283.8	288.2	-0.9	-0.3%
Wheat	BCA, March	Argentina	EXW	297.0	297.5	302.0	305.6	-0.5	-2.9%
Corn yellow	CBOT, March	United States	EXW	254.0	255.9	266.8	267.9	-1.9	-0.7%
Corn	Euronext, March	France	FOB	307.8	306.0	315.4	313.5	+1.8	+0.6%
Corn hard	BCA, March	Argentina	EXW	252.2	258.0	261.0	261.0	-5.8	-2.2%
Cash market									
Wheat SRW	March	USA	CPT Mex.	292.4	297.0	318.0	325.5	-4.6	-1.5%
Wheat hard	March	Argentina	FOB	357.0	357.0	362.0	365.0	0	0
WheatFCW1	March	France	FOB	301.0	307.0	325.0	328.0	-6.0	-2.0%
Corn yellow	March	USA	CPT Mex.	289.5	291.3	302.3	303.3	-1.8	-0.6%
Corn	March	Argentina	FOB	301.0	308.0	314.0	311.0	-7.0	-2.3%
Fodder barley	March	France	FOB	278.3	280.0	293.5	289.1	-1.7	-0.6%

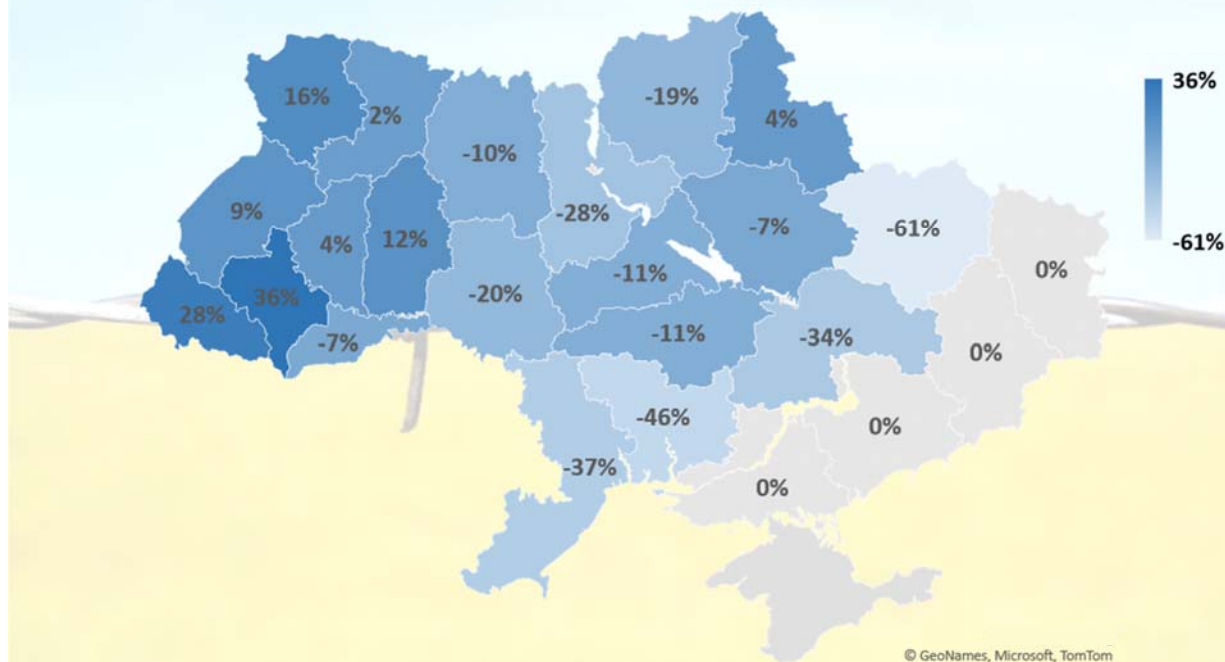
Source: based on APK-inform

DYNAMICS OF WHEAT PRODUCTION IN UKRAINE



Source: based on data of Ministry of Agrarian Policy and Food of Ukraine, State Statistic Service of Ukraine and UCAB

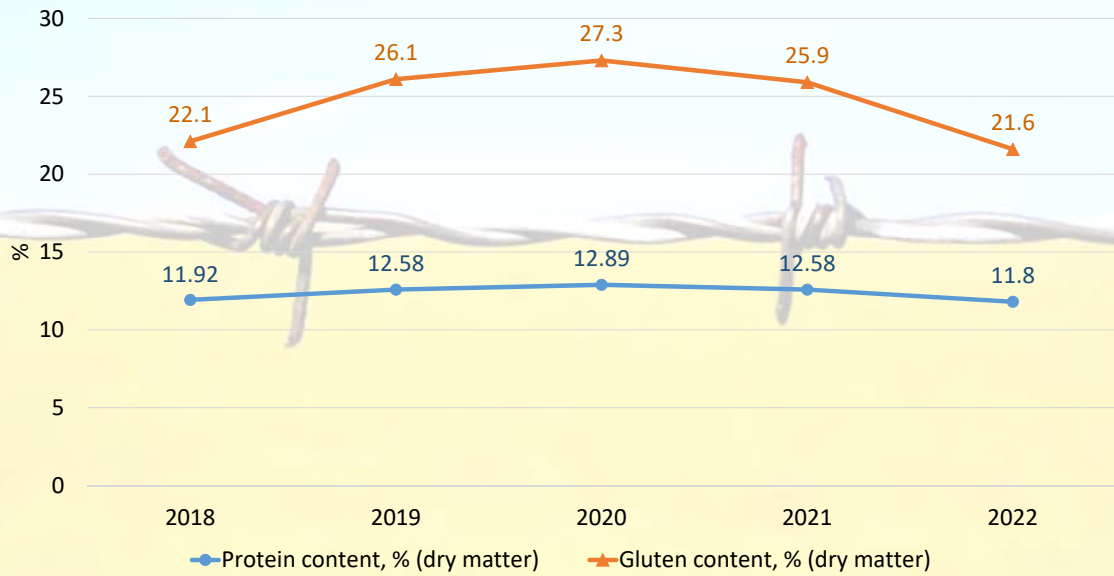
CHANGES IN WHEAT PRODUCTION IN UKRAINE IN 2022 TO 2021 BY REGIONS



Source: based on APK-inform

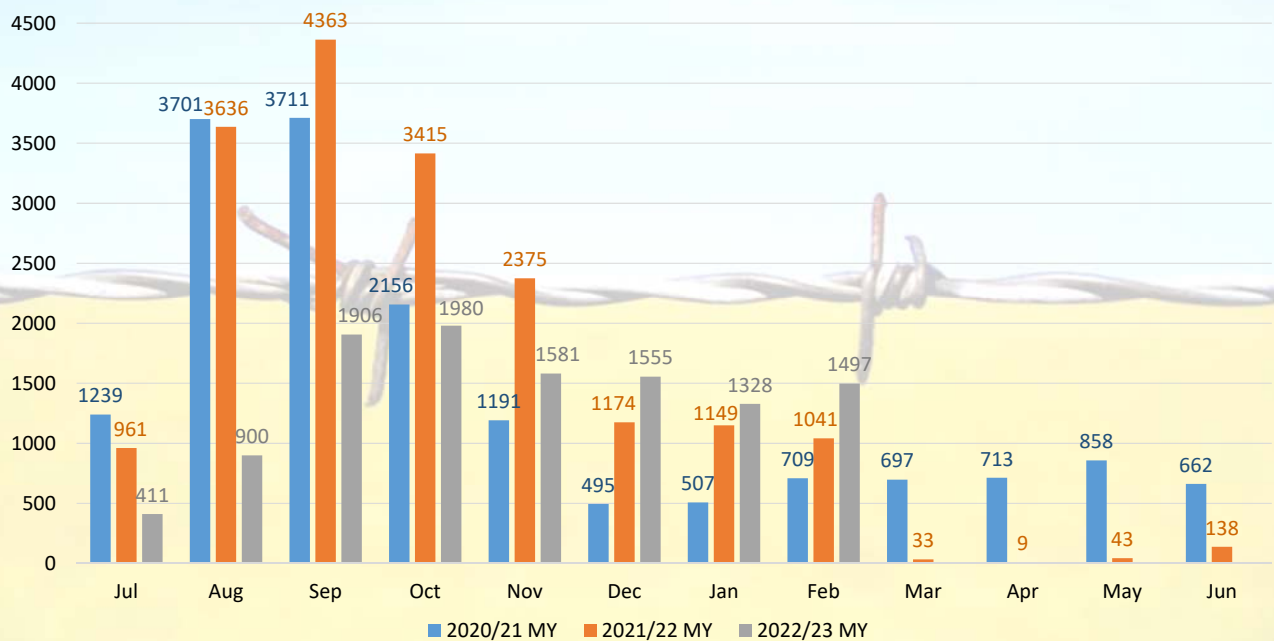
© GeoNames, Microsoft, TomTom

DYNAMICS OF PROTEIN AND GLUTEN CONTENT IN WHEAT IN UKRAINE



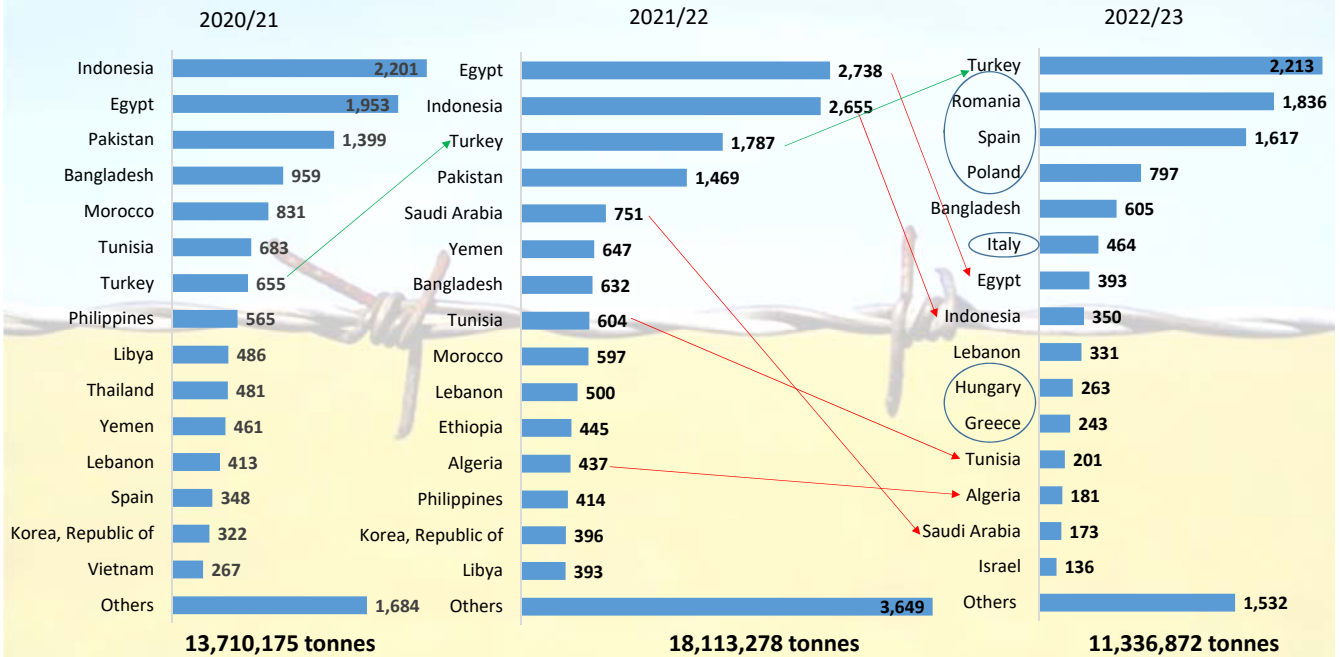
Source: SGS

DYNAMICS OF WHEAT EXPORT FROM UKRAINE



Source: based on data of Ministry of Agrarian Policy and Food of Ukraine and State Customs Service of Ukraine

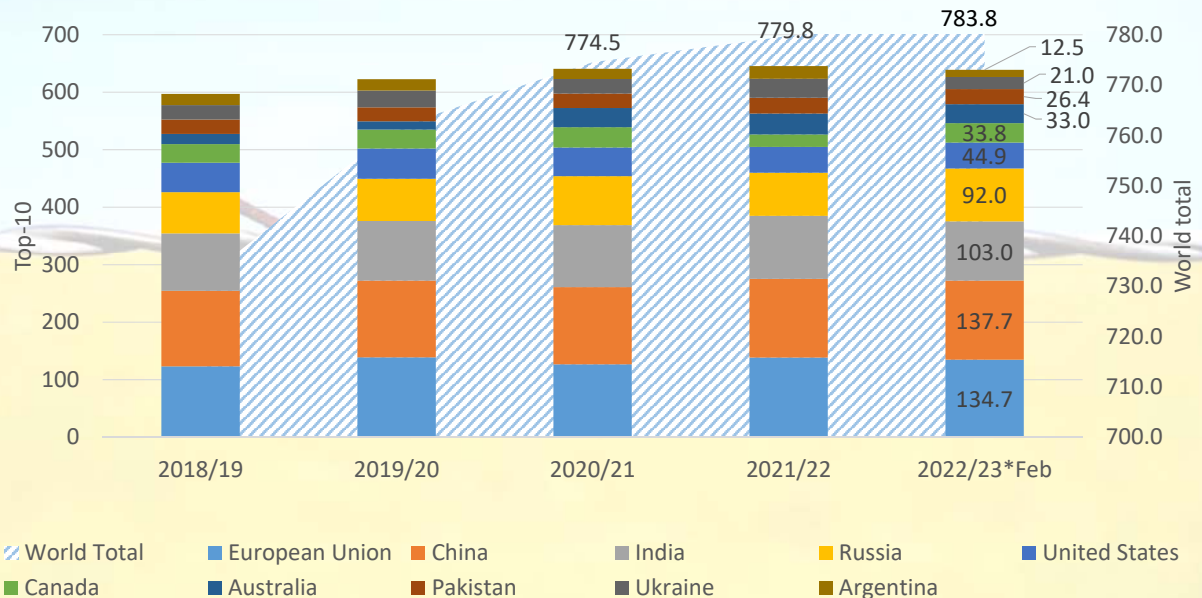
GEOGRAPHY OF WHEAT EXPORT FROM UKRAINE, July 1 - February 28, thousand tonnes



Source: based on data of State Customs Service of Ukraine

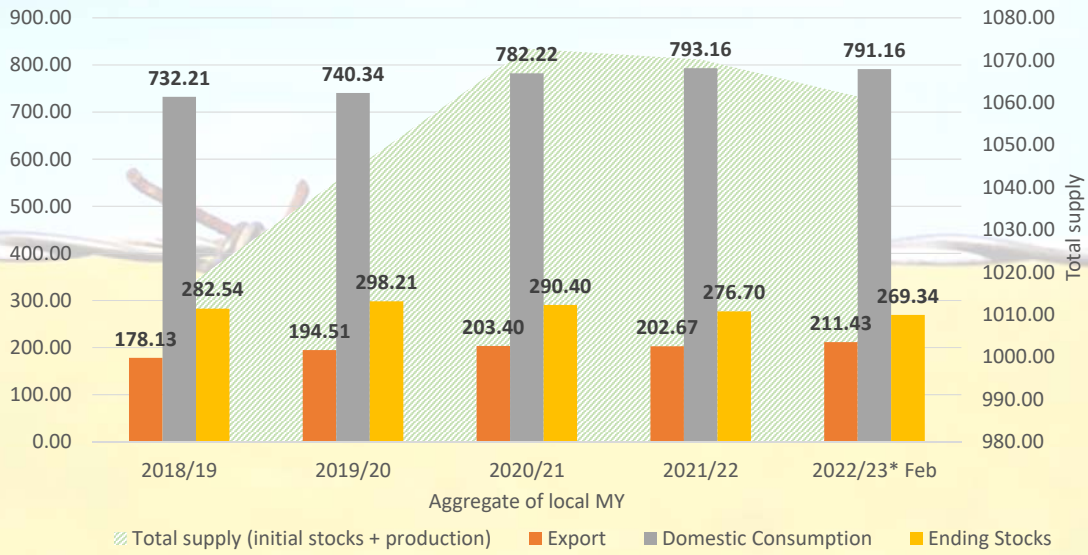
DYNAMICS OF WORLD WHEAT PRODUCTION, million metric tonnes

(forecast as of February, 2023)



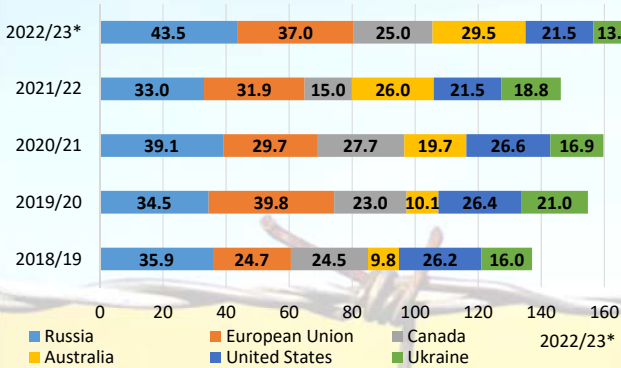
Source: based on the data of the USDA

DYNAMICS OF WORLD WHEAT DEMAND AND SUPPLY,
million metric tonnes
(forecast as of February, 2023)



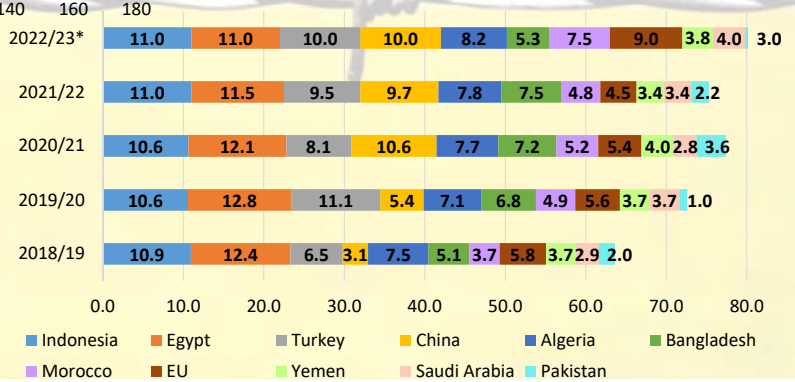
Source: based on the data of the USDA

Dynamics of wheat shipments from key exporting countries,
million metric tonnes



WORLD EXPORT-IMPORT WHEAT DYNAMICS
(forecast as of February, 2023)

Dynamics of wheat purchases by the main importing countries,
million metric tonnes



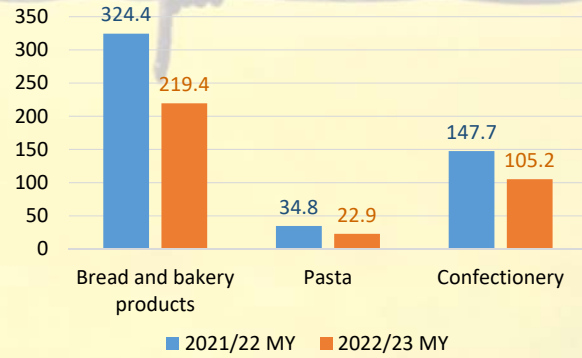
Source: based on the data of the USDA

FLOUR PRODUCTION AND CONSUMPTION IN UKRAINE, thousand tonnes

Production



Use of flour for making bread, bakery products, pasta and confectionery products, July – January



Source: based on the data of APK-Inform

FLOUR EXPORT FROM UKRAINE, thousand tonnes

by years

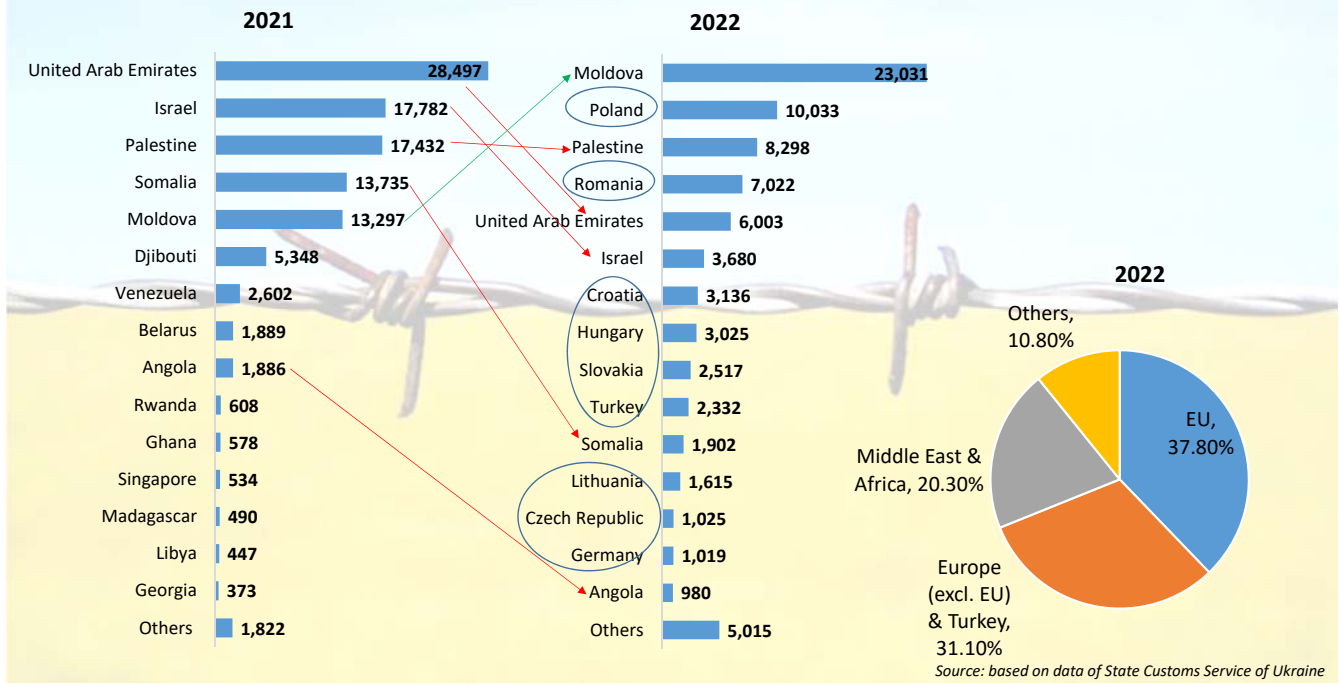


by months

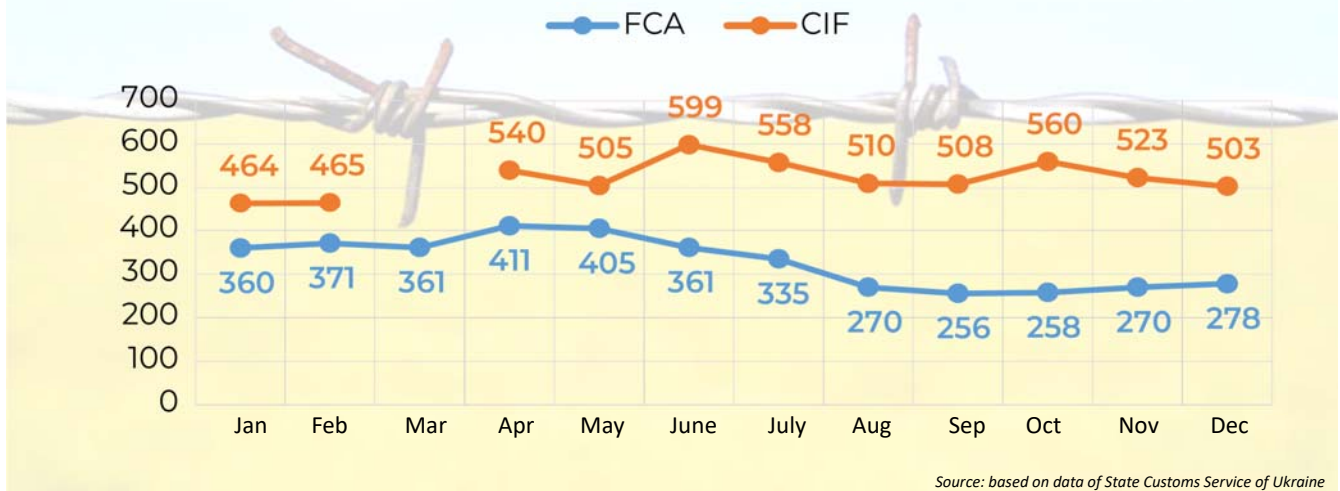


Source: based on data of State Customs Service of Ukraine

GEOGRAPHY OF FLOUR EXPORT FROM UKRAINE, tonnes



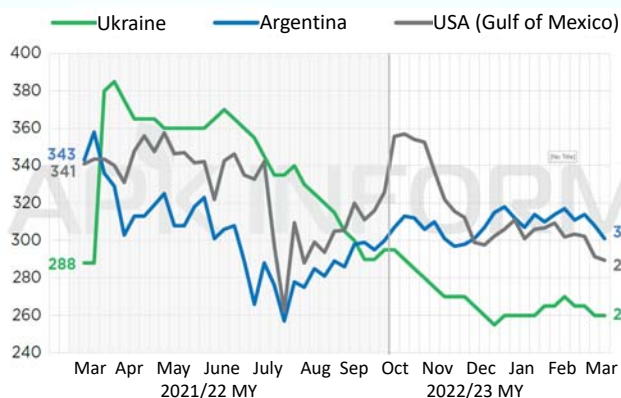
AVERAGE EXPORT PRICE OF UKRAINIAN TOP-GRADE FLOUR in 2022, USD/t



CORN: world production, trade and stocks, thousand tonnes

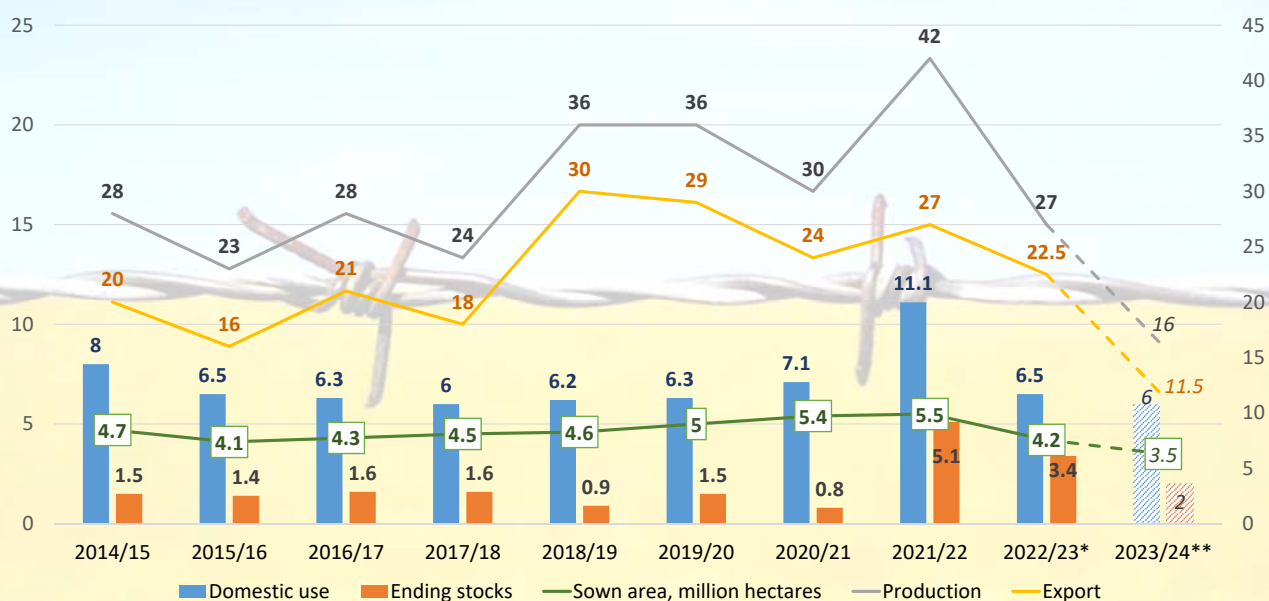
		2020/21	2021/22	2022/23*	2022/23* to 2021/22
Production		1,129,503	1,216,002	1,151,364	-5.3%
TOP-5	USA	358,447	382,893	348,751	-8.9%
	China	260,670	272,552	277,200	+1.7%
	Brazil	87,000	116,000	125,000	+7.8%
	EU	67,440	70,979	54,200	-23.6%
	Argentina	52,000	49,500	47,000	-5.1%
	Ukraine	30,297	42,126	27,000	-35.9%
Russia	13,872	15,225	14,000	-8.0%	
Import		184,070	193,930	182,365	-6.0%
TOP-5	EU	14,493	19,783	23,500	+18.8%
	China	29,512	21,884	18,000	-17.7%
	Mexico	16,498	17,572	17,200	-2.1%
	Japan	15,479	15,014	15,000	-0.1%
	Korea, South	11,708	11,519	11,000	-4.5%
	Russia	38	50	50	=
Ukraine	21	15	-	-	
Export		184,070	193,930	182,365	-6.0%
TOP-5	Brazil	27,492	32,439	51,000	+57.2%
	USA	68,293	62,978	51,000	-19.0%
	Argentina	36,544	38,853	33,000	-15.1%
	Ukraine	23,864	26,980	22,500	-16.6%
	Paraguay	2,563	3,187	3,600	-13.0%
	Russia	3,989	4,000	3,300	-17.5%
Ending stocks		292,835	306,283	295,275	-3.6%
TOP-5	China	205,704	209,137	207,317	-0.9%
	USA	31,358	34,975	32,173	-8.0%
	Brazil	4,153	4,253	7,553	+77.6%
	EU	7,880	9,942	7,342	-26.2%
	Ukraine	832	5,093	3,393	-33.4%
	Russia	751	926	776	-16.2%

Dynamics of corn prices, FOB, USD/t



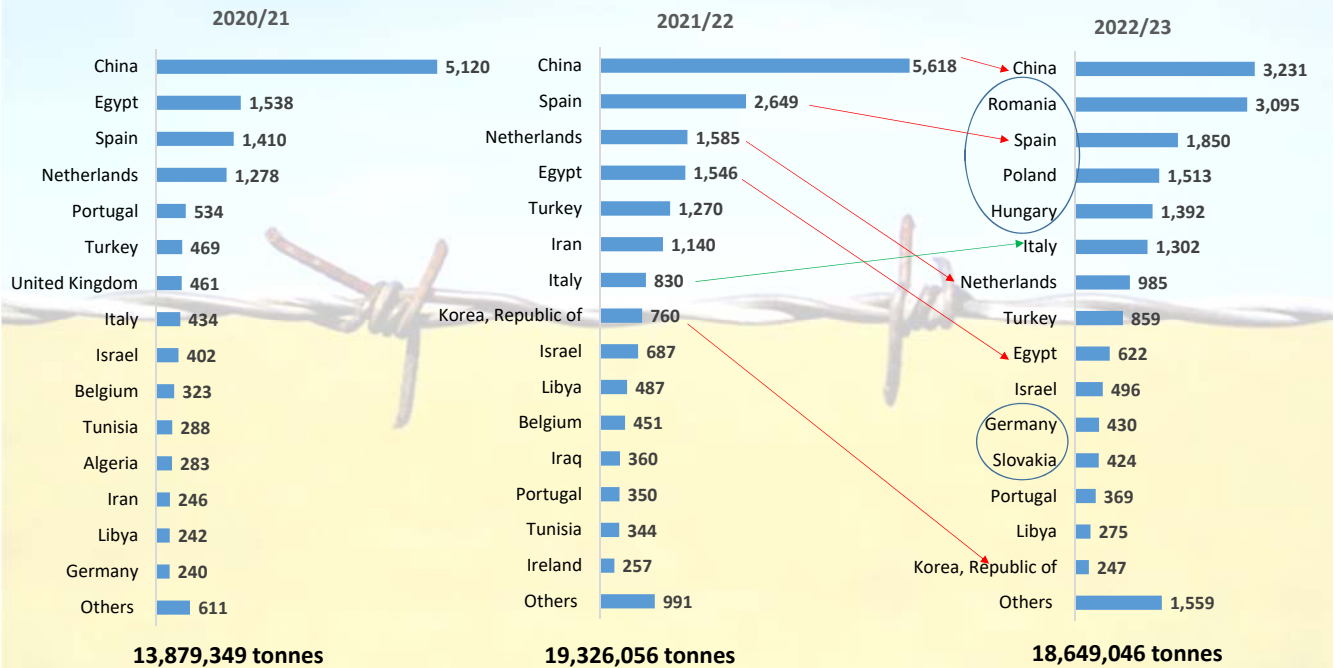
Source: USDA (as of February 2023)

DYNAMICS OF CORN PRODUCTION, TRADE AND STOCKS IN UKRAINE, million tonnes



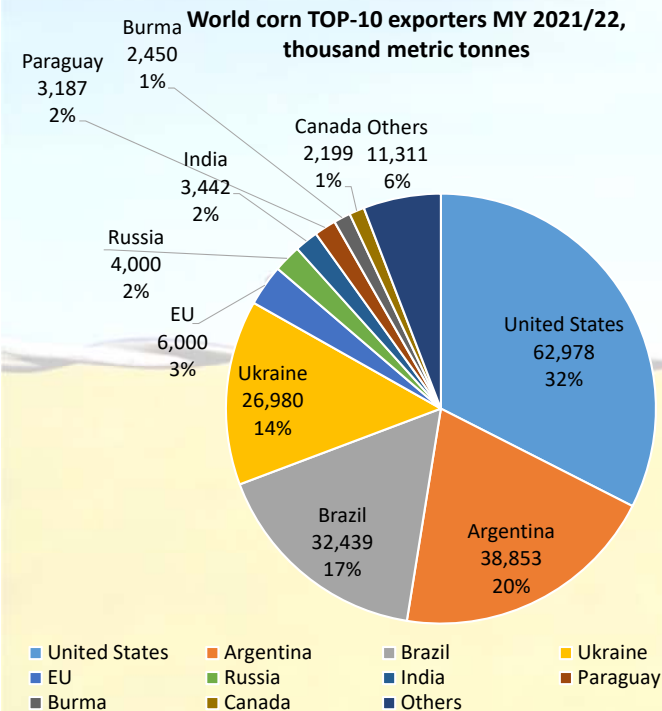
Source: based on data of USDA, State Statistic Service of Ukraine, UCAB and APK-inform

GEOGRAPHY OF CORN EXPORT FROM UKRAINE, July 1 - February 28, thousand tonnes

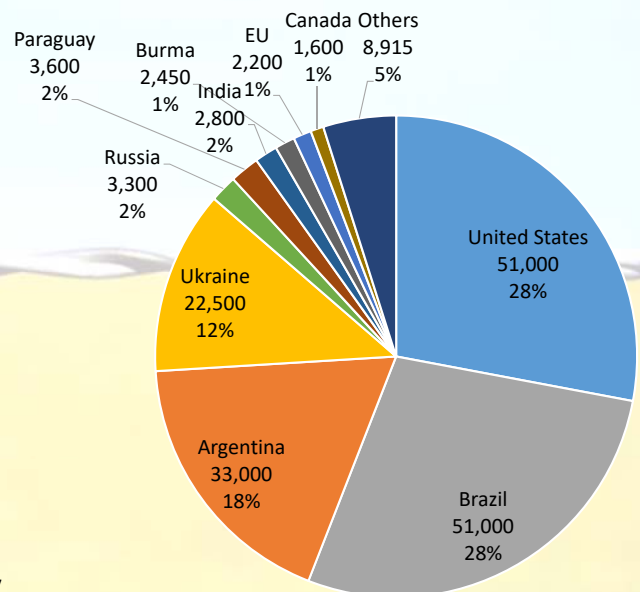


Source: based on data of State Customs Service of Ukraine


World corn TOP-10 exporters MY 2021/22, thousand metric tonnes



World corn TOP-10 exporters MY 2022/23 forecast, thousand metric tonnes



Source: based on the data of the USDA, February 2023



Thank you!

Questions?