

Current state of the Black Sea grain, legumes and oil markets

Antonina Broyaka

PhD in Economics, Associate Professor

Extension Associate of Agricultural Economics Department,
Kansas State University

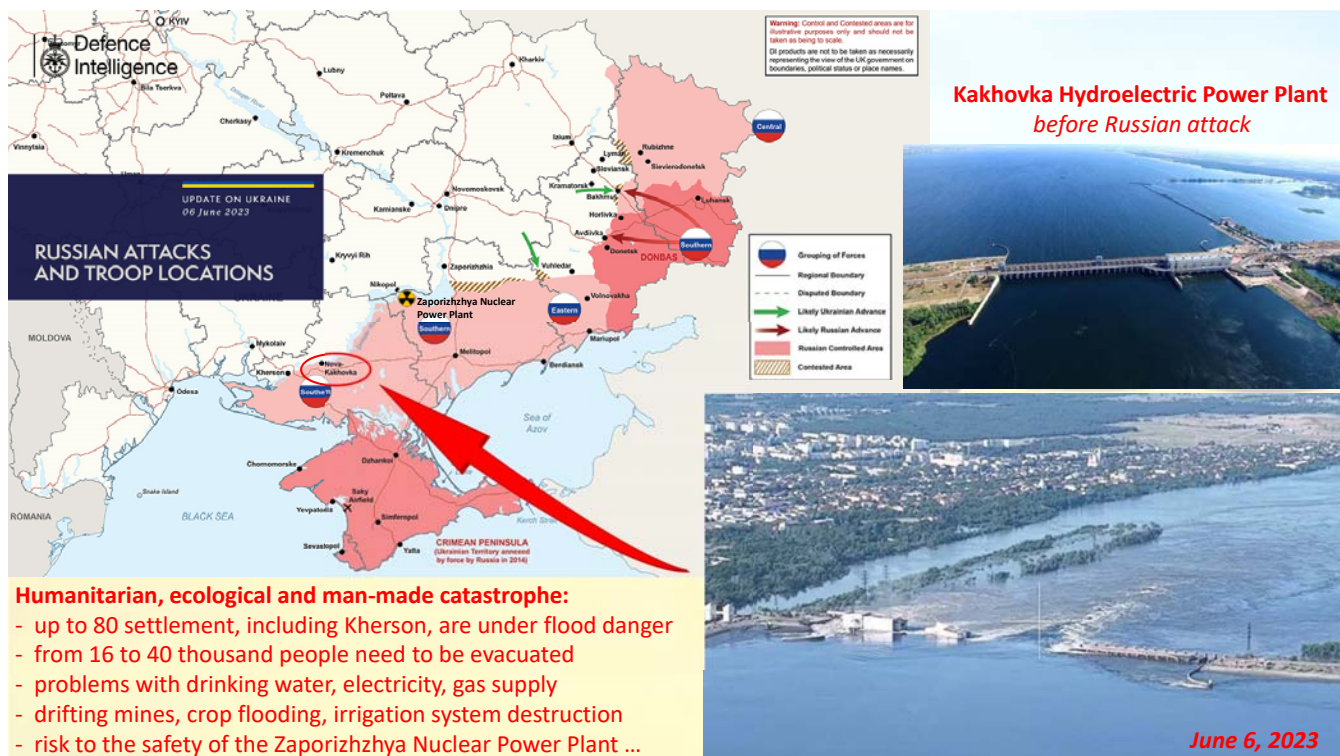
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Agricultural Economics

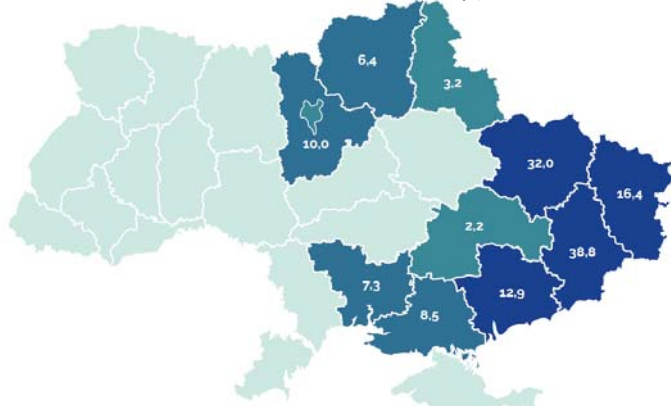
OUTLINE:

- Damages and losses from the war
- Agricultural reconstruction and recovery needs
- Export of ag commodities and “Grain initiative”
- Ukrainian oil seeds market overview
- Planting in Ukraine
- Planting in Russia and Russian grain export



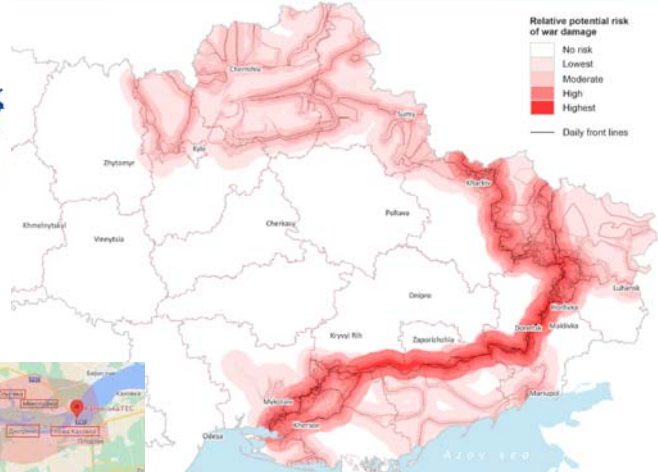


10 MOST AFFECTED REGIONS, \$ billion



Risks of soil damage in combat zones

188,000 square kilometers of soil are at risk of damage and contamination

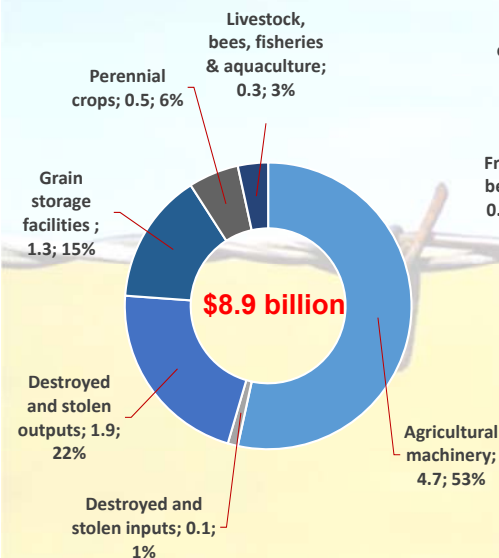


Source: KSE Institute

Danger of flooding

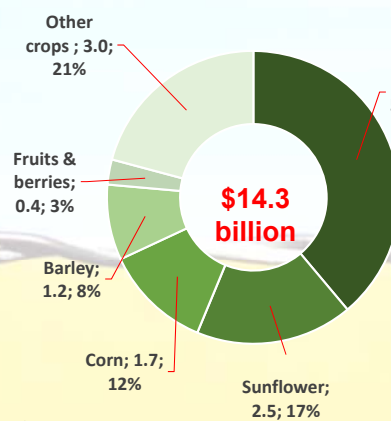


DIRECT DAMAGE FROM THE WAR TO UKRAINIAN AGRICULTURE, \$ billion

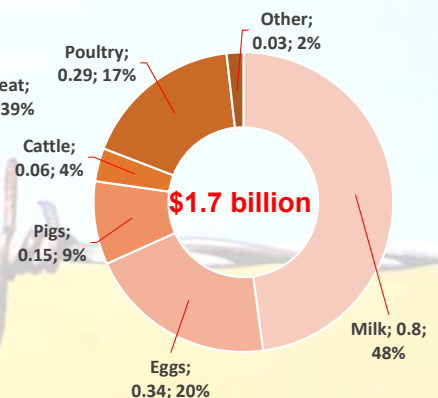


INDIRECT LOSSES FROM THE WAR TO UKRAINIAN AGRICULTURE, \$ billion

Crop losses due to lower production, \$ billion



Livestock losses due to lower production, \$ billion

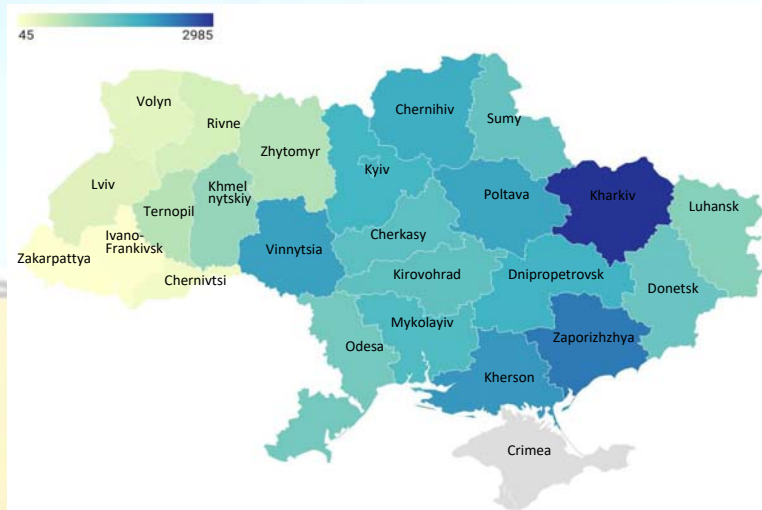


Other losses: \$15.6 billion

- due to decrease in the prices for export-oriented commodities - \$14.5 billion;
- due to decrease in the prices for fertilizers - \$377.1 million;
- due to decrease in the prices for fuel - \$467.4 million;
- recultivation of the land affected by battles and missiles - \$183.9 million;
- fisheries and aquaculture losses - \$53.8 million

Source: Kyiv School of Economics, April 2023

REGIONAL DISTRIBUTION OF LOSSES TO UKRAINIAN AGRICULTURE, \$ mln



Region	Damages, million USD	Losses, million USD	Total, million USD	% of National
Vinnytsia	-	2,034	2,034	5.1 %
Volyn	-	353	353	0.9 %
Dnipropetrovsk	1	1,827	1,828	4.5 %
Donetsk	960	1,447	2,406	6.0 %
Zhytomyr	0	795	795	2.0 %
Zakarpattia	-	45	45	0.1%
Zaporizhzhya	1,447	2,445	3,892	9.7 %
Ivano-Frankivsk	-	72	72	0.2 %
Kyiv	457	1,778	2,235	5.6 %
Kirovohrad	1	1,553	1,554	3.9 %
Luhansk	2,500	1,167	3,667	9.1 %
Lviv	-	384	384	1.0 %
Mykolayiv	386	1,686	2,072	5.2 %
Odesa	1	1,335	1,336	3.3 %
Poltava	0	1,985	1,985	4.9 %
Rivne	-	484	484	1.2 %
Sumy	116	1,509	1,625	4.0 %
Ternopil	-	771	771	1.9 %
Kharkiv	1,207	2,985	4,192	10.4 %
Kherson	1,411	2,137	3,547	8.8 %
Khmelnytskyi	-	1,044	1,044	2.6 %
Cherkasy	1	1,581	1,582	3.9 %
Chernivtsi	0	181	181	0.4 %
Chernihiv	231	1,889	2,120	5.3 %
Ukraine	8,718	31,488	40,205	100.0 %

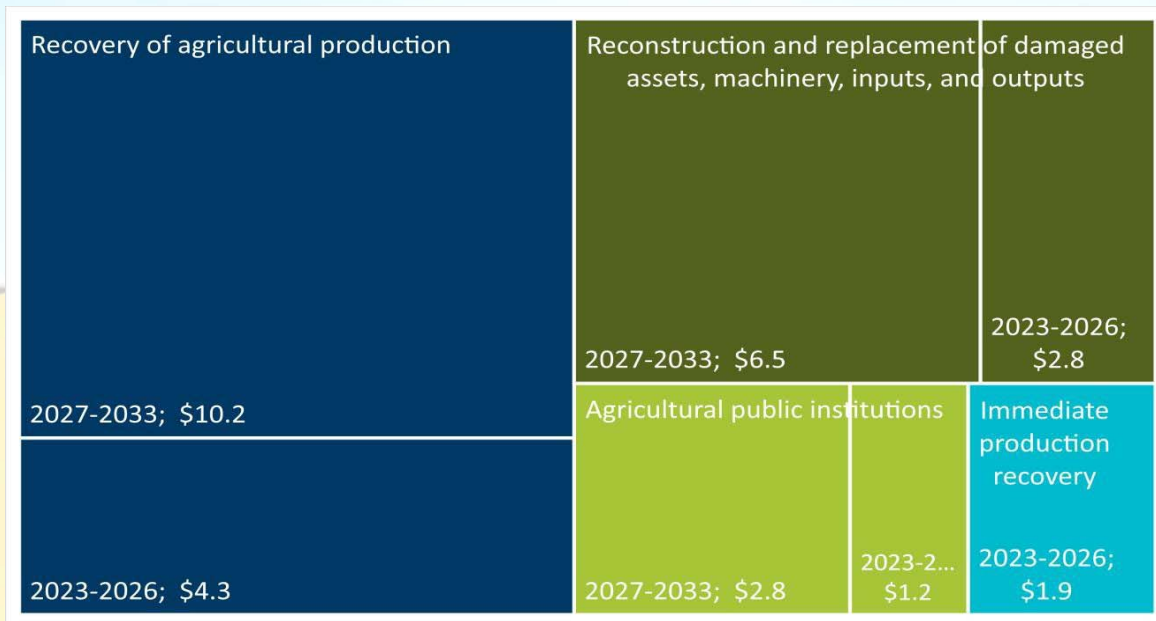
Source: Kyiv School of Economics, April 2023

AGRICULTURAL RECONSTRUCTION AND RECOVERY NEEDS, \$ million

Category	Component	Immediate (2023)	Medium to Long-term (2024-2033)	Total
Reconstruction Needs	(a) Support to reconstruction:	50	9,270	9,320
	Storage facilities		1,593	1,593
	Farm equipment and machinery		4,656	4,656
	Recultivation of damaged farmlands	50	133	183
	Perennial crops		588	588
	Livestock, fisheries, and aquaculture		333	333
	Outputs and inputs		1,967	1,967
Recovery Needs	(b) Support to an immediate agriculture production recovery:	490	1,380	1,870
	Interest rate compensation (BDF, credit program 5-7-9)	300	600	900
	Partial credit guarantee fund for agriculture	20	80	100
	Grants and inputs for ag production by small farms (per hectare and per livestock unit)	120	500	620
	Full and matching grants for alternative energy generation of farms, elevators and other agribusinesses	50	200	250
	(c) Support to a longer-term recovery of the agriculture:	50	14,450	14,500
	Investment grants for promoting climate-smart technologies for arable crops		4,000	4,000
	Investment grants for investing in horticulture (orchards and greenhouses)	50	3,950	4,000
	Investment grants for livestock development		4,000	4,000
	Investment grants for integrated food-energy systems, inc. biogas development		1,800	1,800
	Investment grants for fisheries and aquaculture		700	700
	(d) Support to agricultural public institutions, including to accelerate the EU accession	10	4,000	4,010
	TOTAL	600	29,100	29,700

Source: Kyiv School of Economics, April 2023

STRUCTURE OF AGRICULTURAL REVIVAL NEEDS, \$ billion



Source: Kyiv School of Economics, April 2023

EXPORT OF CEREALS and LEGUMES with products of their processing as of May 31, 2023, thousand tonnes

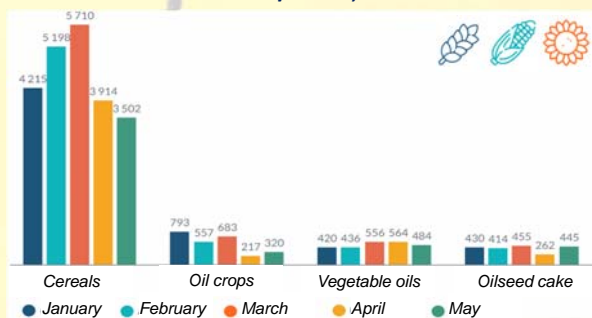
	2020/2021 MY Total	2021/2022 MY			2022/2023 MY	
		Total	As for May 2022	including May 2022	Total as for May 2023	including May 2023
Cereals and legumes, total	43939	48508	47011	1142	45290	3403
• wheat	16413	18741	18570	44	15442	1044
• barley	4210	5752	5679	11	2647	182
• rye	15.8	161.9	161.9	0	17.9	0
• corn	22596	23535	22295	1084	26868	2170
Wheat flour	123.7	69.4	69.4	1.4	136.0	13.3
Other flour	1.1	1.5	1.6	0.1	5.5	0.5
Total flour	124.8	70.9	71.0	1.5	141.5	13.8
Total export (grain + flour)	44105	48579	47106	1144	45432	3417

Source: based on data of State Customs Service of Ukraine

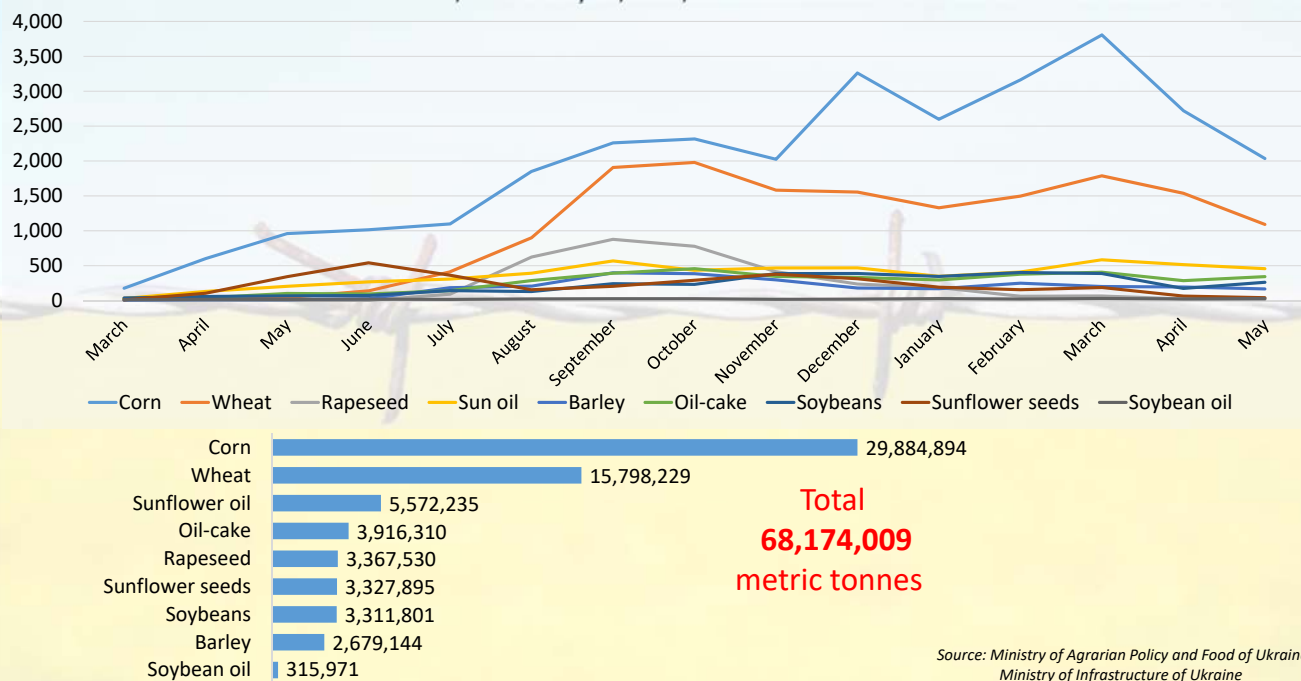
Dynamics of grain exports from Ukraine, thousand tonnes



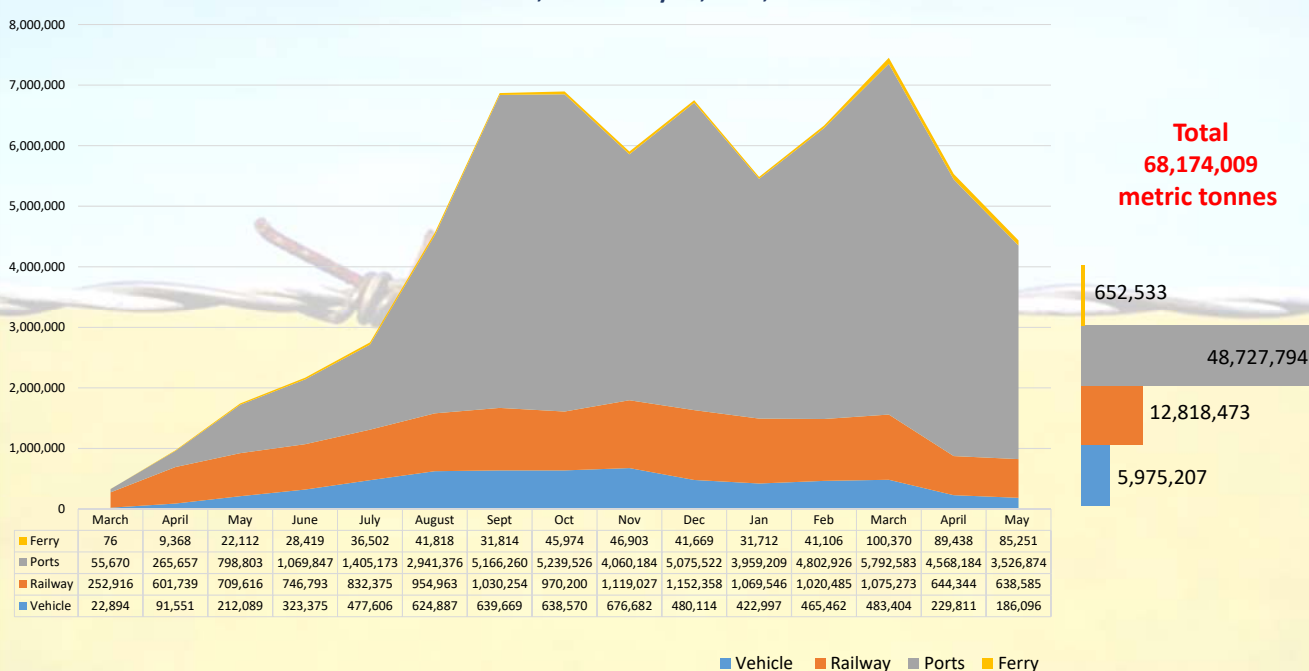
Dynamics of main agricultural products export from Ukraine in 2022/23 MY, thousand tonnes



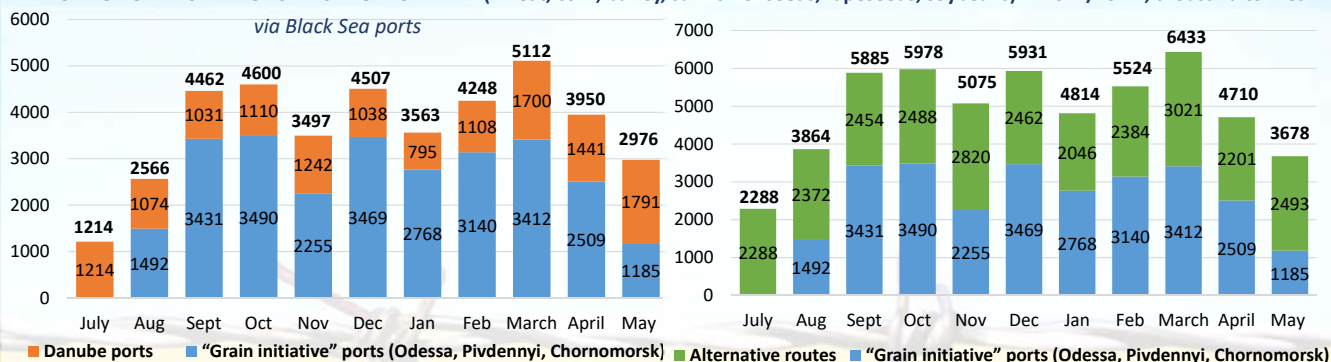
**BORDER-CROSSING FROM UKRAINE DURING THE WAR TIME BY TYPES OF AGRICULTURAL PRODUCTS,
March 1, 2022 – May 31, 2023, thousand metric tonnes**



**BORDER-CROSSING OF AGRICULTURAL PRODUCTS FROM UKRAINE IN TRANSPORTATION BREAKDOWN,
March 1, 2022 – May 31, 2023, metrics tonnes**



EXPORT OF GRAINS AND OILSEEDS FROM UKRAINE (wheat, corn, barley, sunflower seeds, rapeseeds, soybeans) in 2022/23MY, thousand tonnes



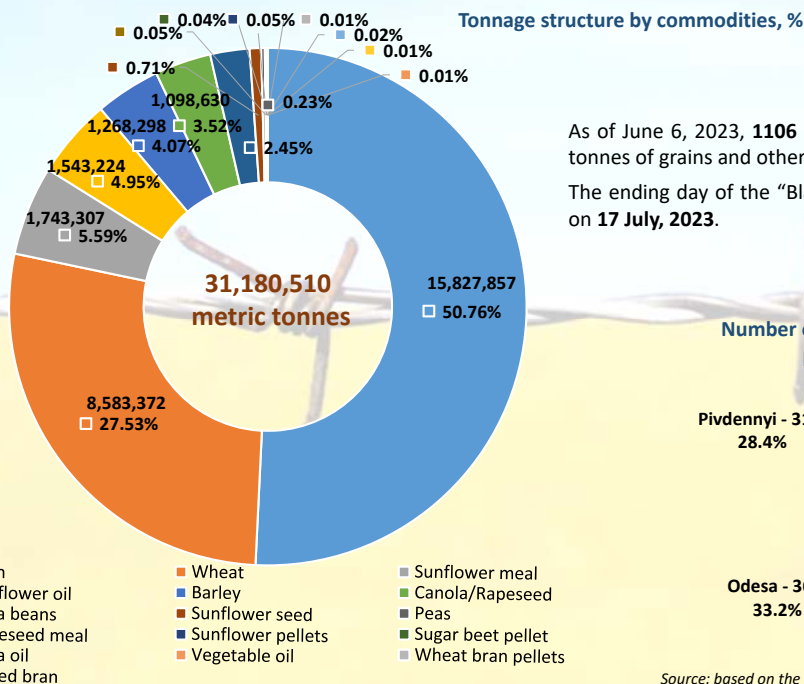
Almost all Ukrainian ports are closed due to occupation, blockade, mine danger, and the danger of the piracy by Russia.

- 1 Will work as a logistics center
- 3 Entry and exit is not possible
- 3 Don't work
- 5 Occupied since 2014
- 3 Work as usual
- 3 Partially resumed work



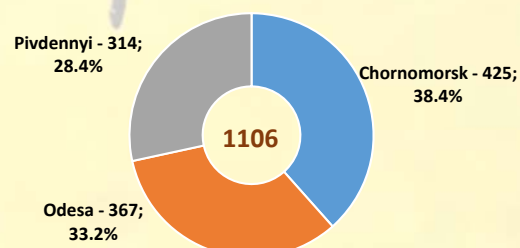
Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre, Ministry of Agrarian Policy and Food of Ukraine and Ministry of Infrastructure of Ukraine

EXECUTION OF THE AGREEMENT "Initiative for the safe transportation of grain and food products from Ukrainian ports" August 1, 2022 – June 6, 2023



As of June 6, 2023, 1106 shipments (970vessels) of 31,180,510 metric tonnes of grains and other foodstuffs have left Ukrainian ports. The ending day of the "Black Sea Grain Initiative" is bound for renewal on 17 July, 2023.

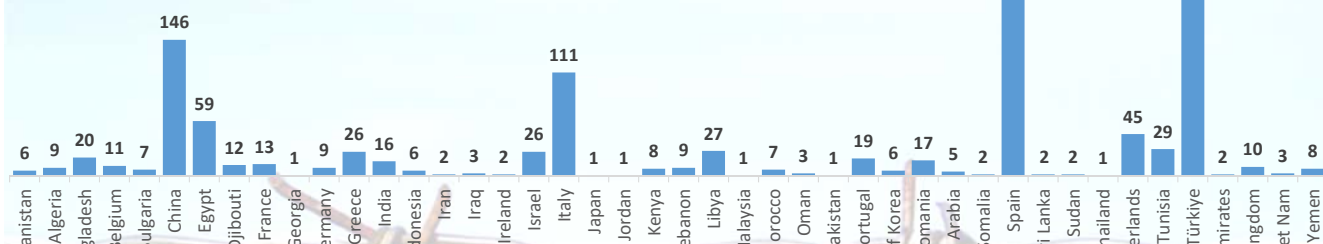
Number of grain cargoes left Ukrainian Black Sea ports under "grain agreement"



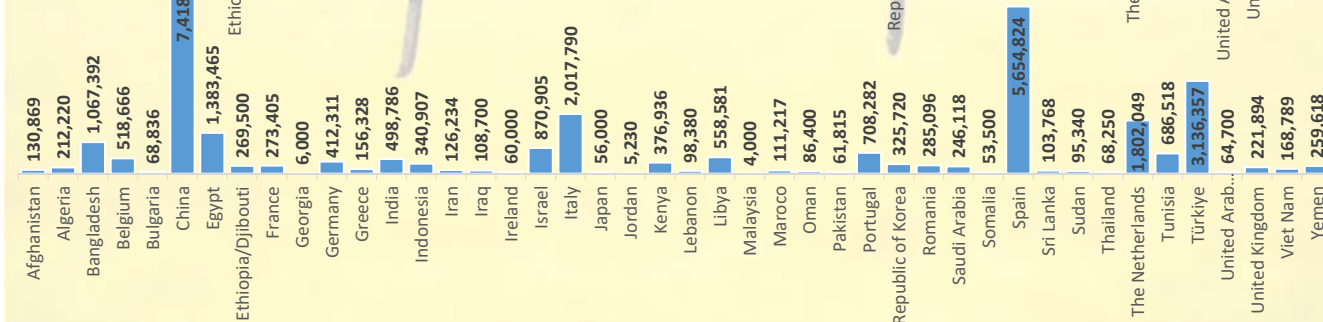
Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre

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 – June 6, 2023**

a) quantity of voyages, units

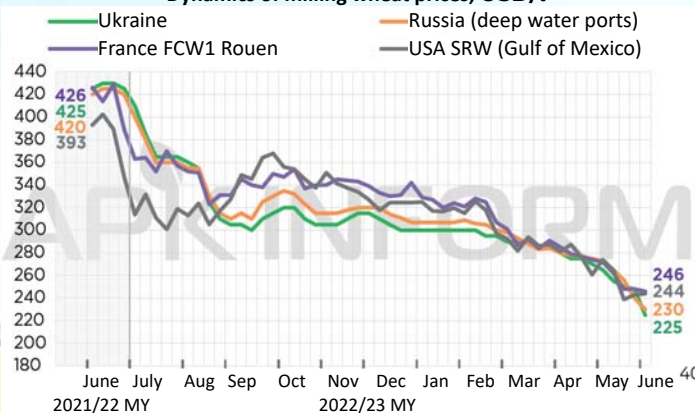


a) share in total tonnage, metric tonnes



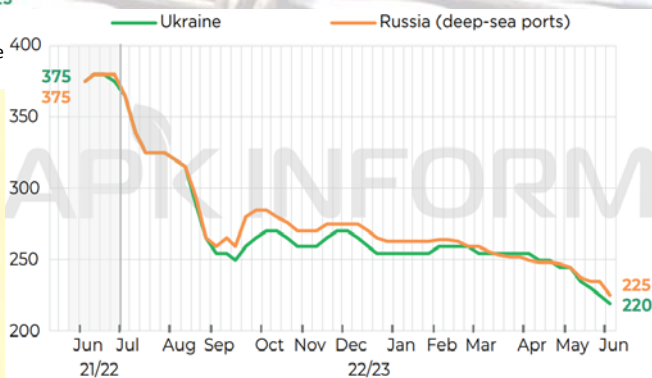
Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre

Dynamics of milling wheat prices, USD/t



IMPACT OF THE WAR ON GRAIN PRICES

Price dynamics of feed wheat (offer, FOB), USD/t



Price dynamics of feed barley (offer, FOB), USD/t

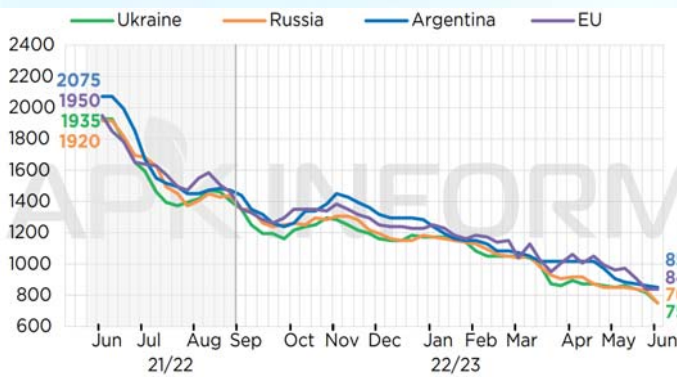


IMPACT OF THE WAR ON GRAIN PRICES

Price dynamics of corn (offer, FOB), USD/t

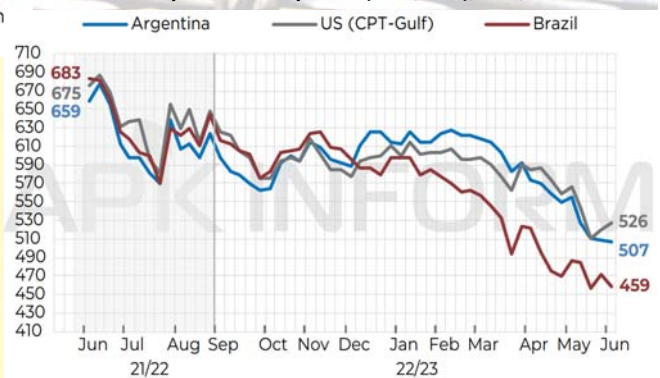


Price dynamics of sunflower oil (offer, FOB), USD/t



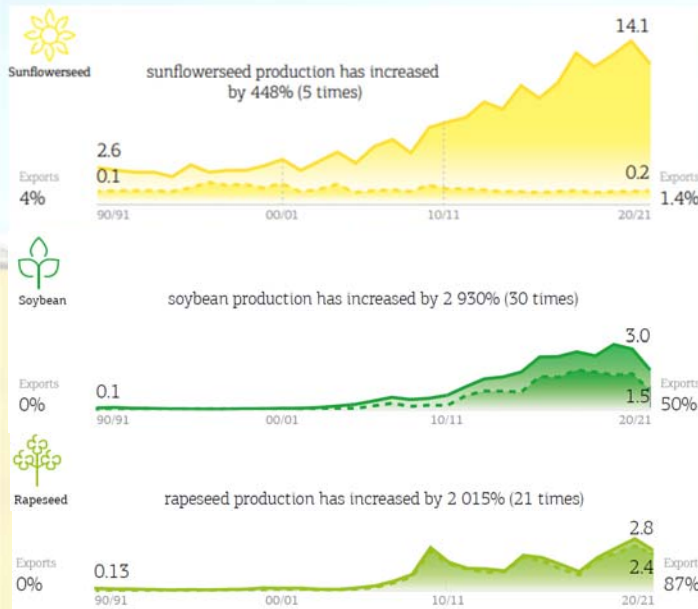
IMPACT OF THE WAR ON OIL COMMODITIES PRICES

Price dynamics of soybeans (offer, FOB), USD/t



TOP-3 OIL CROPS IN UKRAINE, 1990/91 – 2020/21 MY

Production and exports from Ukraine, mln t



Yield of agricultural crops, t/ha

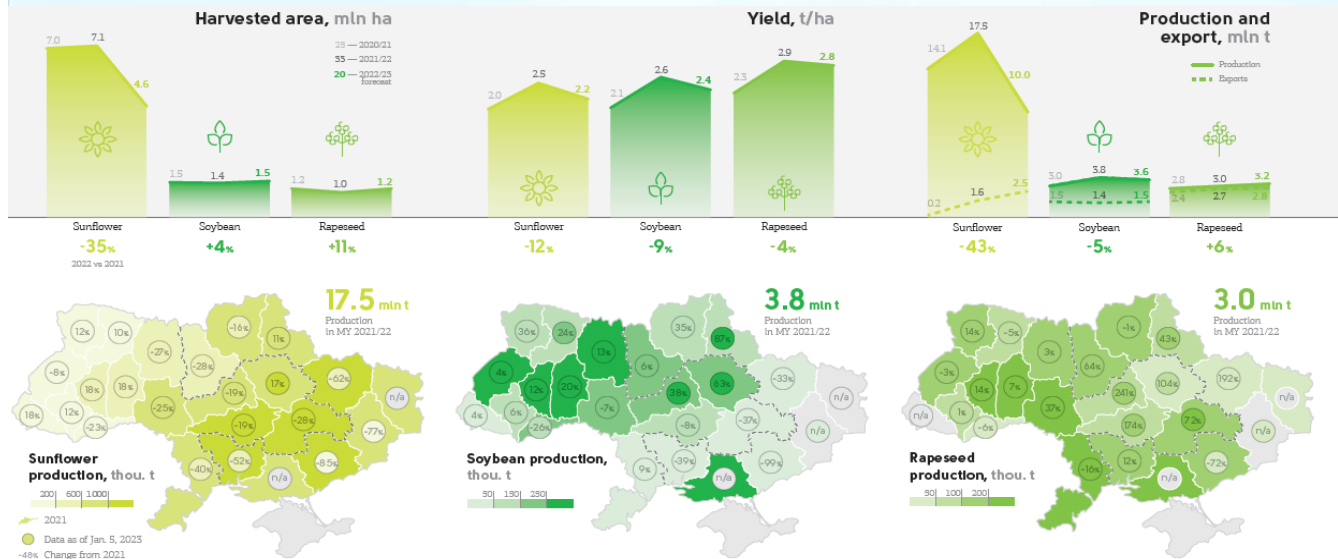


Harvested areas, mln ha

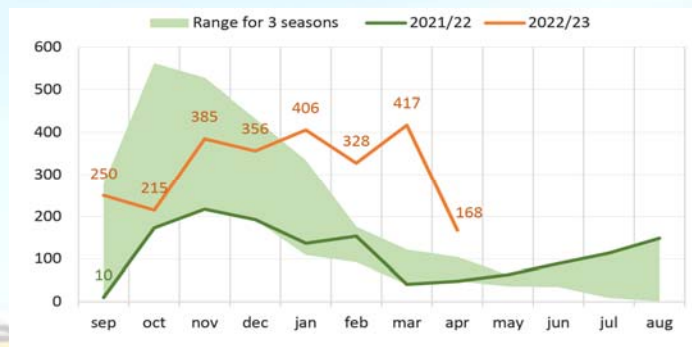


Source: Agribusiness of Ukraine
2020/2021 Infographic Report

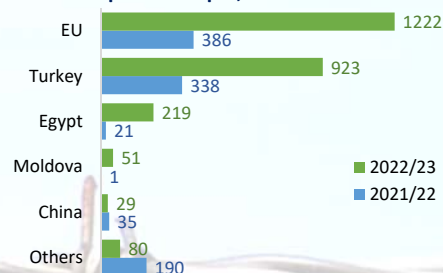
TOP-3 OIL CROPS IN UKRAINE, 2020/21 – 2022/23* MY



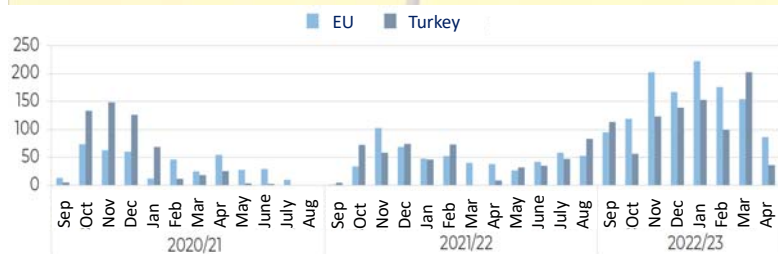
EXPORT OF SOYBEANS FROM UKRAINE, thousand tonnes



Geography of soybeans export from Ukraine in September-April, thousand tonnes



Export of soybeans from Ukraine to EU and Turkey, thousand tonnes

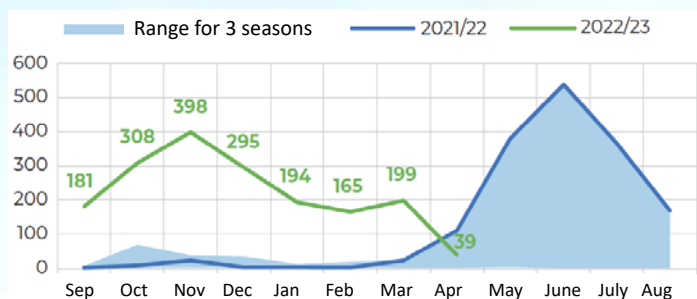


Source: based on data of State Customs Service of Ukraine

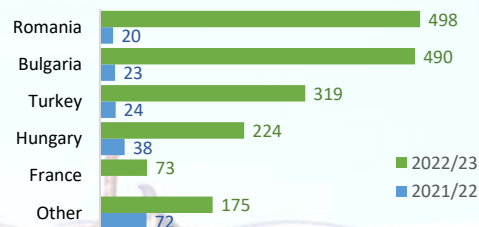
Dynamics of soybean processing in Ukraine, thousand tonnes



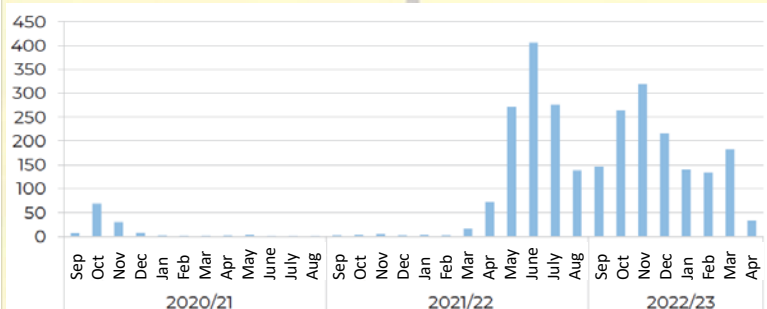
EXPORT OF SUNFLOWER SEEDS FROM UKRAINE, thousand tonnes



Geography of sunflower seeds export from Ukraine in September-April, thousand tonnes

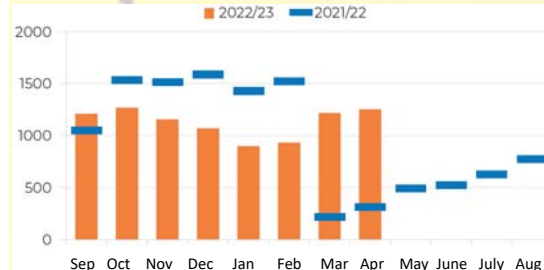


Export of sunflower seeds from Ukraine to EU, thousand tonnes

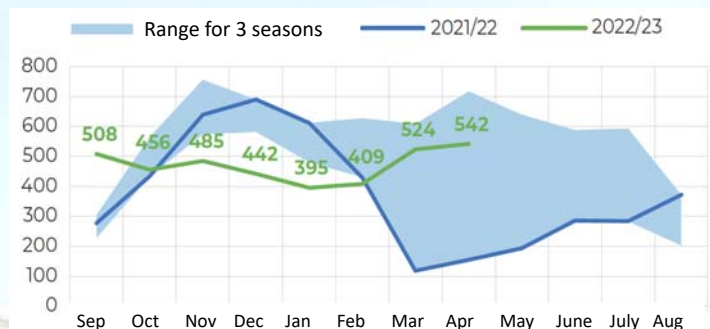


Source: based on data of State Customs Service of Ukraine

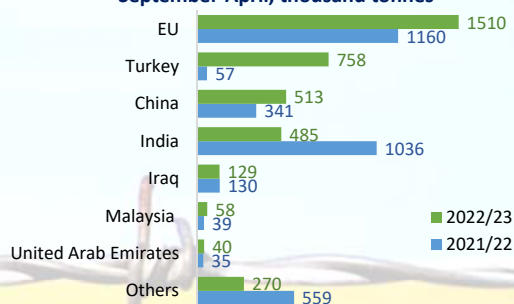
Dynamics of sunflower processing in Ukraine, thousand tonnes



EXPORT OF SUNFLOWER OIL FROM UKRAINE, thousand tonnes



Geography of sunflower oil export from Ukraine in September-April, thousand tonnes

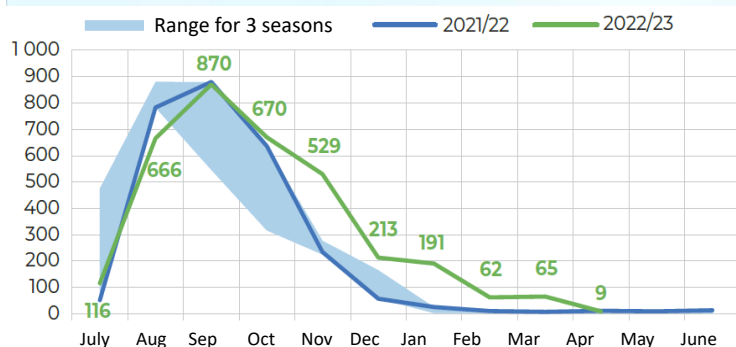


Export of sunflower oil from Ukraine and Russia to India, thousand tonnes

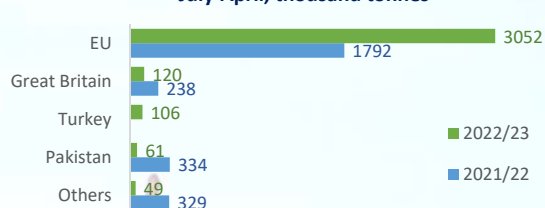


Source: based on data of State Customs Service of Ukraine

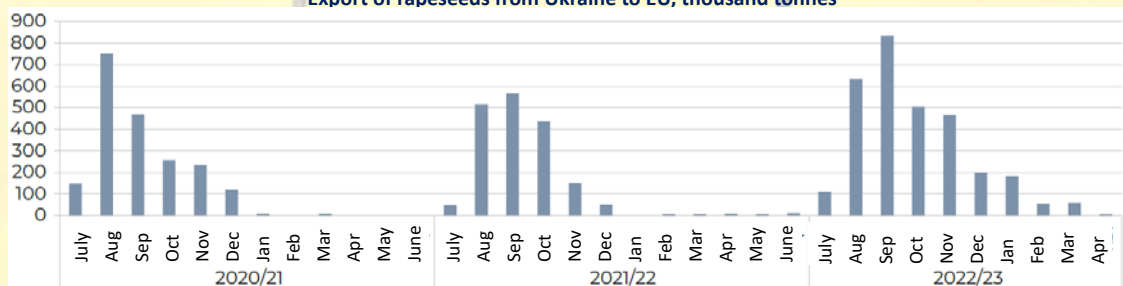
EXPORT OF RAPESEEDS FROM UKRAINE, thousand tonnes



Geography of rapeseeds export from Ukraine in July-April, thousand tonnes



Export of rapeseeds from Ukraine to EU, thousand tonnes



Source: based on data of State Customs Service of Ukraine

SOWING OF WINTER CROPS IN UKRAINE,
thousand hectares

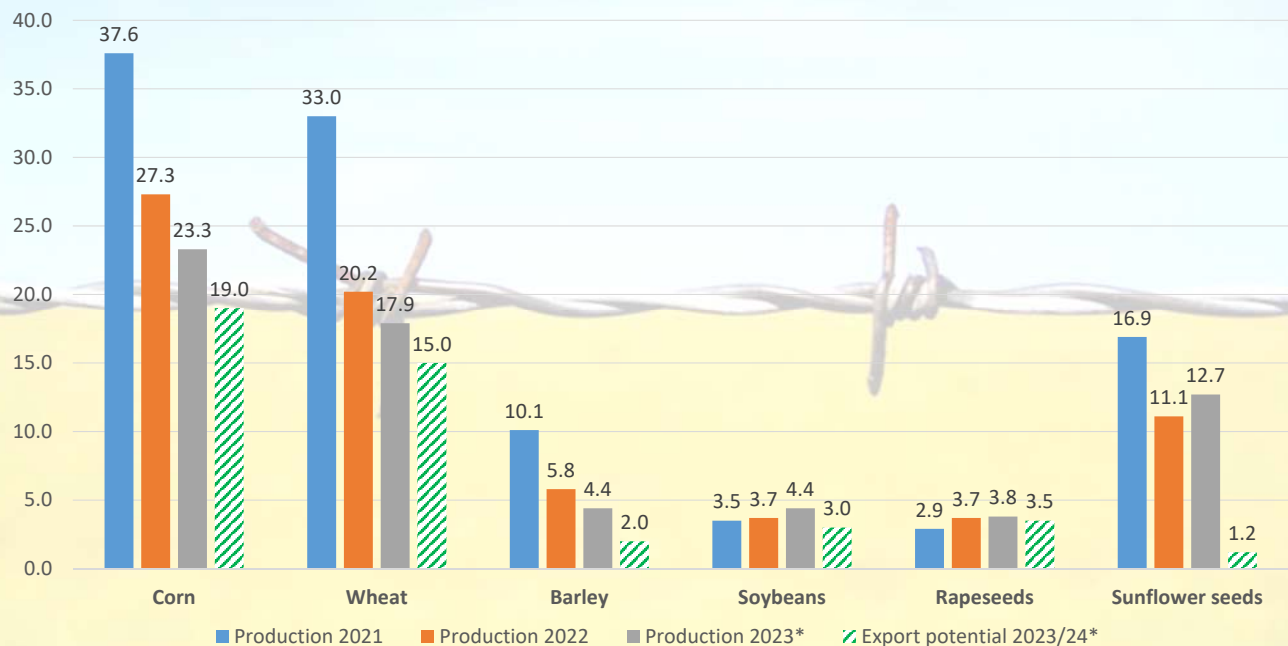
Crops	Sown areas in 2020	Sown areas in 2021	Planted in 2022 for the 2023 harvest	% of planted in 2022 to 2021
Winter crops total, including:	8,973.5	9,029.4	5,449.4	60.3 %
• winter wheat	6,714.4	6,538.4	3,758.8	57.5 %
• winter barley	1,080.4	969.0	612.5	63.2 %
• winter rye	166.8	108.5	79.2	73.0 %
• winter rapeseeds	1,011.9	1,413.5	998.9	70.7 %

SOWN AREA OF SPRING CROPS IN UKRAINE
thousand hectares

Crops	Sown, thousand hectares		2022 to 2021	2023 forecast	2023 as of June 2
	2021	2022			
Total (selected crops)	15633.2	12327.0	78.9%	13477	12467.2
Spring cereals and legumes including:	7586.0	6196.9	81.7%	5700	5472
• spring wheat	192.1	191.1	99.4%	285	269.5
• spring barley	1337.0	951.4	71.2%	1041	766.1
• oats	177.9	159.3	89.5%	195	145.6
• peas	242.1	131.0	54.1%	315	136.1
• corn	5474.8	4639.4	84.7%	3618	3892.5
• buckwheat	84.0	75.3	89.6%	131	106.1
• millet	78.1	49.5	63.3%	115	46.1
Spring rapeseed	33.2	34.1	102.7%	75	0
Soybeans	1279.6	1212.6	94.8%	1841	1739.3
Sunflower	6509.7	4702.7	72.2%	5641	5042.8
Sugar beet	224.7	180.6	80.4%	220	213.1

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

FORECAST OF HARVEST AND EXPORT OF GRAIN, LEGUMES AND OIL CROPS IN UKRAINE IN 2023, mln tonnes



Source: based on data of Ukrainian Grain Association

WINTER PLANTING CAMPAIGN IN RUSSIA, thousand hectares

Country/district	2020	2021	2022	planted in 2022 to 2020, %
RU total	19,298.3	18,434.5	17,730.1	-8.1 %
Southern FD	7,013.5	7,186.9	7,187.5	2.5 %
Volga FD	4,997.2	4,250.6	4,654.2	-6.9 %
Central FD	4,263.1	3,970.0	3,078.3	-27.8 %
North Caucasian FD	2,377.2	2,464.2	2,326.8	-2.1 %
Siberian FD	436.0	363.4	294.7	-32.4 %
Northwestern FD	135.6	137.9	134.4	-0.9 %
Ural FD	75.5	61.4	54.1	-28.3 %
Far Eastern FD	0.3	0.1	0.0	-100.0 %



TOP-25 regions producing winter crops, thousand hectares



Source: based on Ministry of Agriculture of the Russian Federation, as of December 27, 2022

SPRING PLANTING CAMPAIGN IN RUSSIA, thousand hectares

by crops

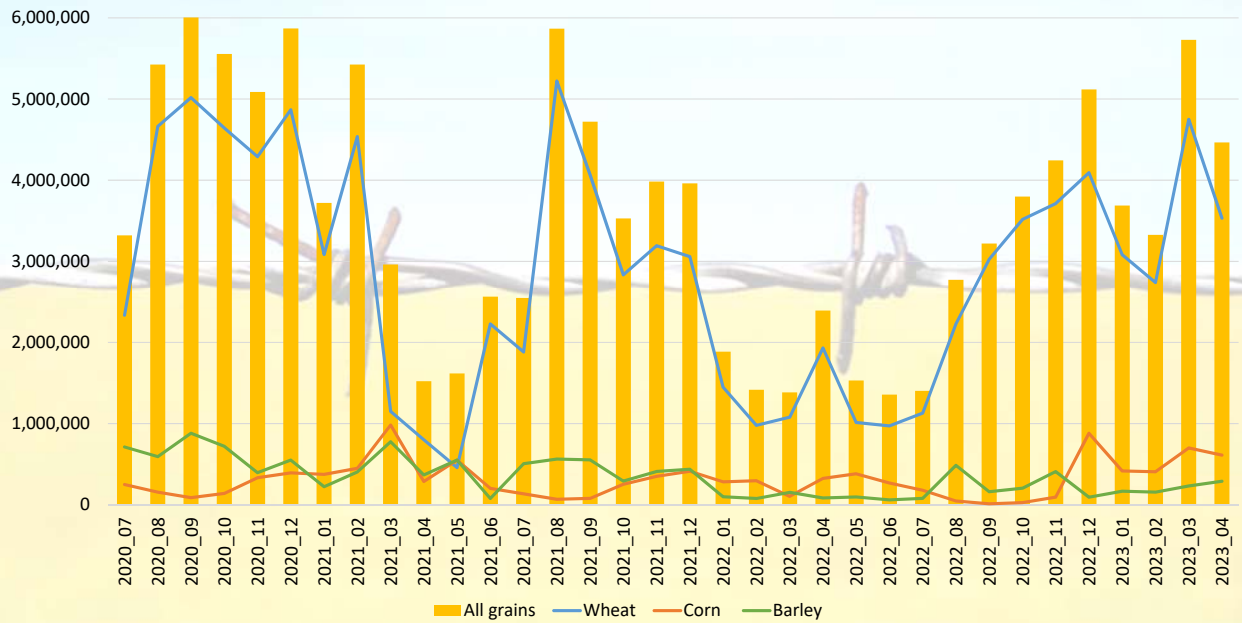
Country/district	2021		2022		As of May 31, 2023		2023 forecast to 2022 fact, %
	Forecast, thsd ha	Fact, thsd ha	Forecast, thsd ha	Fact, thsd ha	Forecast, thsd ha	Fact, thsd ha	
RU, spring planting total	51,470.9	51,385.9	53,559.9	45,281.1	55,237.8	47,938.0	+ 22.0 %
Spring cereals and legumes	29,283.2	29,554.5	29,752.4	25,428.5	29,986.3	27,408.6	+ 17.9%
including:							
• spring wheat	12,676.2	13,058.6	13,006.1	11,316.6	13,009.8	12,858.8	+ 15.0 %
• spring barley	7,698.3	7,399.4	7,453.5	6,461.2	7,690.7	6,715.0	+ 19.0 %
• corn	2,818.0	2,990.3	3,008.0	2,612.8	2,935.0	2,422.0	+ 12.3 %
• rice	191.9	188.7	190.4	140.2	178.1	151.0	+ 27.0 %
Spring rapeseed	1,241.5	1,375.2	1,561.4	1,591.1	1,731.7	1,468.8	+ 8.8 %
Soybeans	3,047.5	2,770.5	3,324.6	2,732.1	3,558.8	2,888.3	+ 30.3 %
Sunflower	8,553.1	9,133.1	9,156.2	7,993.7	9,803.4	8,827.7	+ 22.6 %

spring cereals and legumes by regions

Country/district	2021		2022		As of May 31, 2023		2023 forecast to 2022 fact, %
	Forecast, thsd ha	Fact, thsd ha	Forecast, thsd ha	Fact, thsd ha	Forecast, thsd ha	Fact, thsd ha	
RU	29,283.2	29,554.5	29,752.4	25,428.5	29,986.3	27,408.6	+ 17.9 %
Central FD	4,483.1	4,968.2	4,704.6	4,245.9	5,261.8	4,980.1	+ 23.9 %
Southern FD	2,151.4	2,328.9	2,065.8	1,840.8	1,996.0	1,904.6	+ 8.4 %
Northwestern FD	227.1	214.8	213.6	174.5	190.8	186.4	+ 9.3 %
North Caucasian FD	890.8	882.7	953.2	805.9	874.3	615.7	+ 8.5 %
Volga FD	8,748.7	8,698.5	9,100.6	7,290.7	8,864.2	8,609.2	+ 21.6 %
Ural FD	3,525.0	3,362.6	3,426.3	2,436.6	3,365.5	3,247.6	+ 38.1 %
Siberian FD	8,710.0	8,615.7	8,716.1	8,220.7	8,868.0	7,495.8	+ 7.9 %
Far Eastern FD	547.1	483.1	572.2	413.3	565.6	369.3	+ 36.8 %

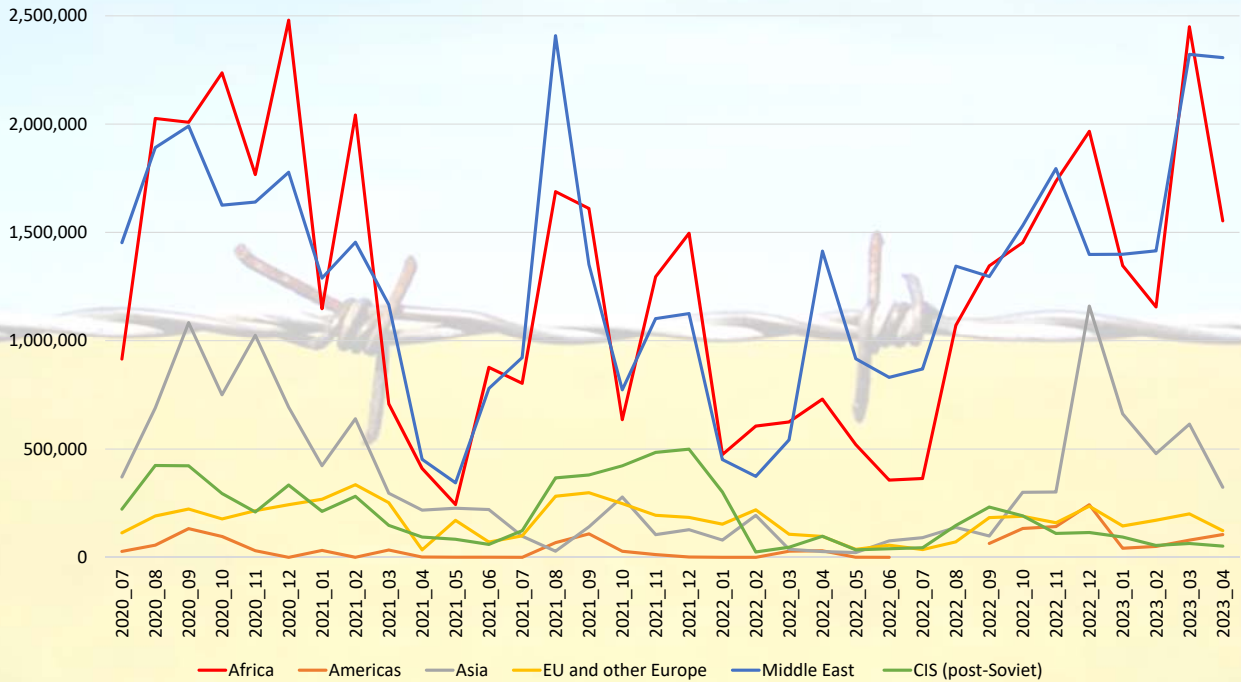
Source: based on Ministry of Agriculture of the Russian Federation

EXPORT OF GRAINS FROM RUSSIA BY COMMODITIES, tonnes



Source: based on Ministry of Agriculture of the Russian Federation

EXPORT OF GRAINS FROM RUSSIA BY DESTINATION, tonnes



Source: based on Ministry of Agriculture of the Russian Federation

