

Agricultural production, trade and logistics in the context of Russia's military invasion of Ukraine (updates)

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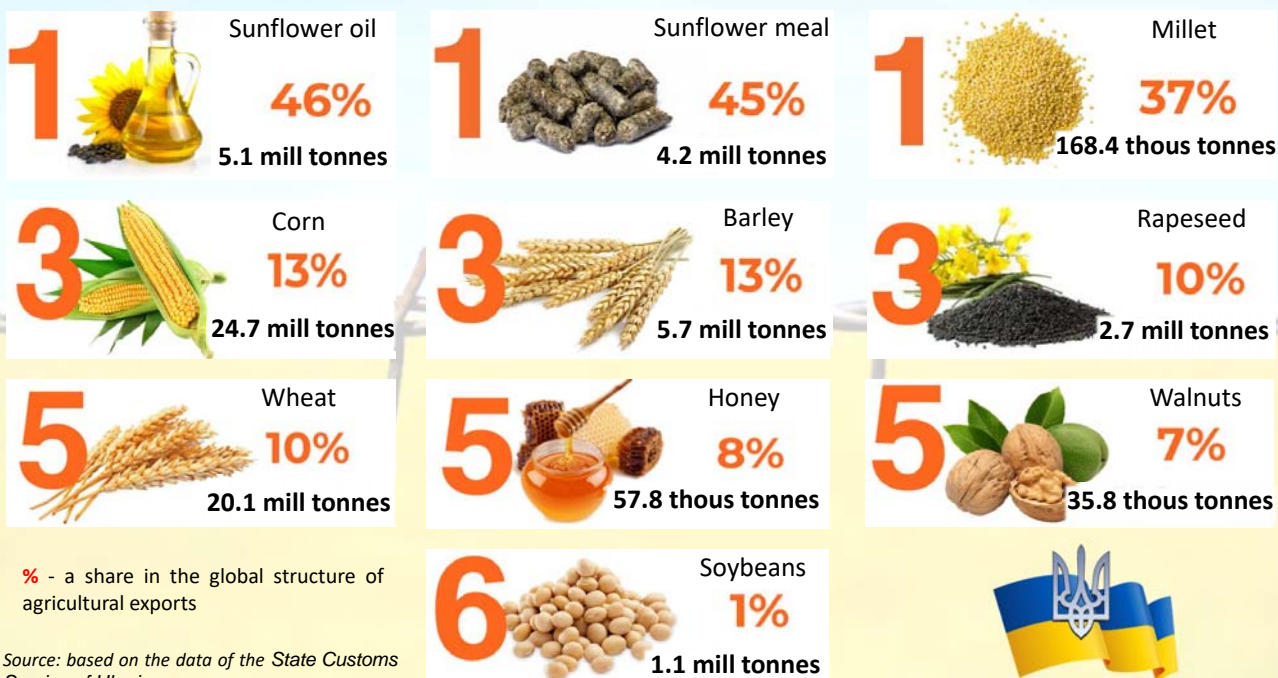
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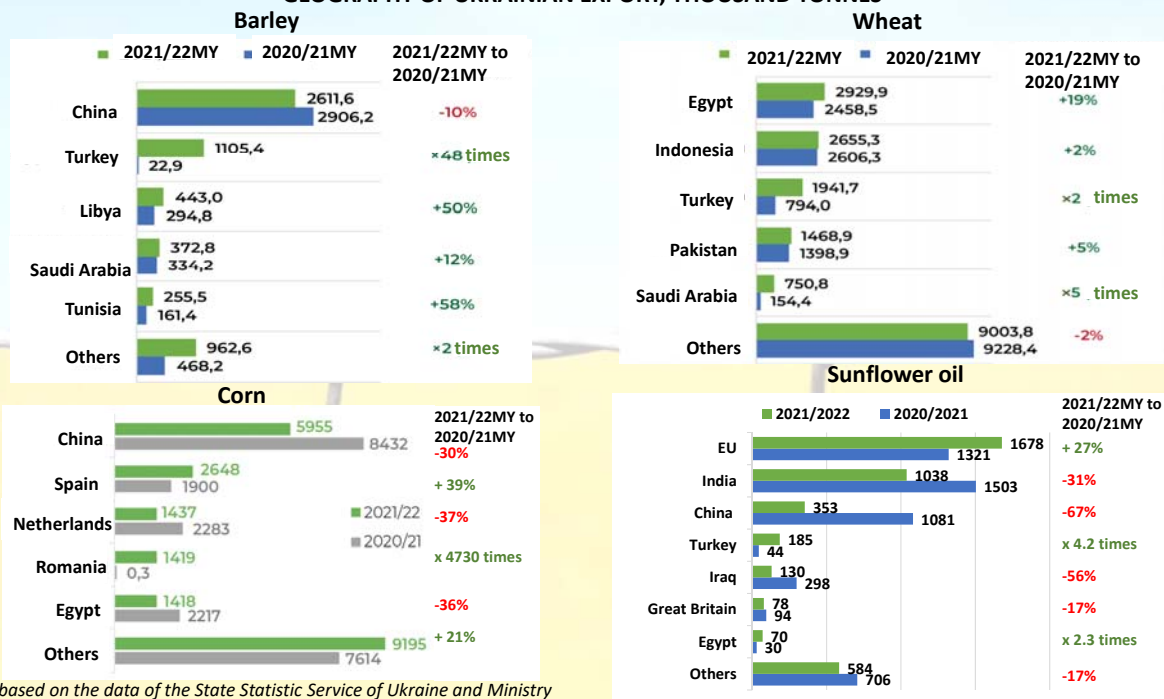
Agricultural Economics



UKRAINE'S PLACE IN GLOBAL AGRICULTURAL EXPORTS IN 2021



GEOGRAPHY OF UKRAINIAN EXPORT, THOUSAND TONNES

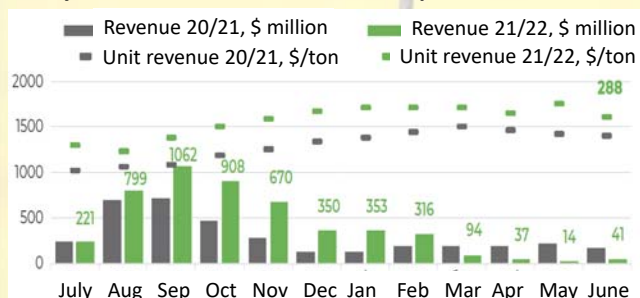


UKRAINE AGRICULTURAL EXPORTS (2021 CALENDAR YEAR)

Product	Value	Top Markets		
TOTAL	\$27.8 billion	EU \$7.7B	China \$4.2B	India \$2.0B
Sunflower Oil	\$6.4 billion	India \$1.9B	EU \$1.9B	China \$0.9B
Corn	\$5.9 billion	China \$1.9B	EU \$1.8B	Egypt \$0.5B
Wheat	\$5.2 billion	Egypt \$0.9B	Indonesia \$0.7B	Turkey \$0.4B
Rapeseed	\$1.7 billion	EU \$1.1B	Pakistan \$0.2B	UK \$0.2B
Barley	\$1.3 billion	China \$0.7B	Turkey \$0.2B	S. Arabia \$0.1B
Sunflower Oilcake	\$1.2 billion	China \$0.6B	EU \$0.3B	Belarus \$0.1B

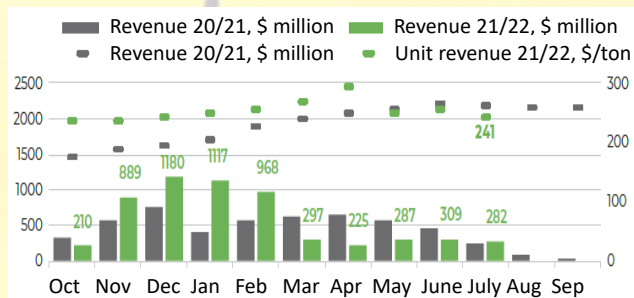
Source: Trade Data Monitor LLC

Dynamics of revenue from wheat exports from Ukraine



Source: APK-infrom

Dynamics of revenue from corn exports from Ukraine

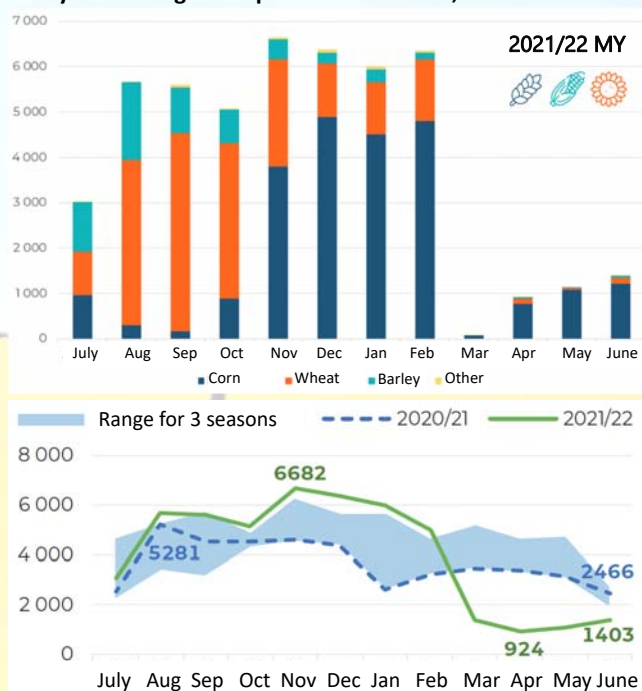


EXPORT OF CEREALS and LEGUMES with products of their processing as of August 19, thousand tonnes

	2020/2021 MY Total	2021/2022 MY		2022/2023 MY	
		Total	including: for August 2021	Total	including: for August 2022
Cereals and legumes, total	43939	48508	3140	2988	1288
• wheat	16413	18741	1970	783	407
• barley	4210	5752	973	257	108
• rye	15.8	161.5	1.1	0.1	0.1
• corn	22596	23535	191	1935	768
Wheat flour	123.7	69.4	7.2	6.4	3.1
Other flour	1.1	1.5	0.1	1.0	0.3
Total flour	124.8	70.9	7.3	7.4	3.4
Total export (grain + flour)	44105	48579	3150	2998	1293

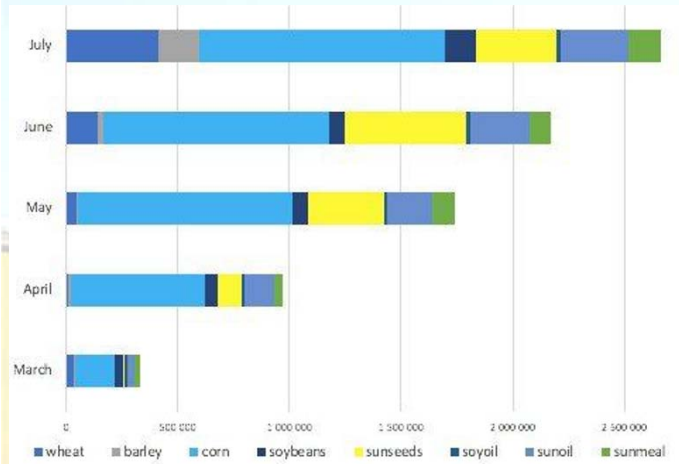
Source: based on data of State Customs Service of Ukraine

Dynamics of grain exports from Ukraine, thousand tonnes

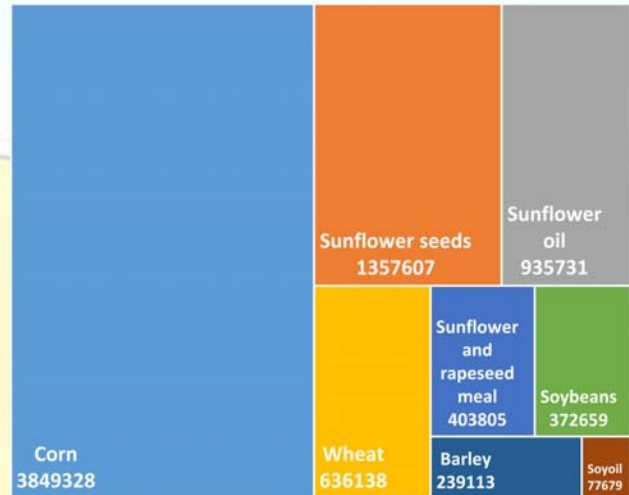


UKRAINIAN AGRICULTURAL EXPORTS UNDER THE WAR CONDITIONS

Dynamics of exports by product groups,
March – July 2022, metric tonnes



Cumulative exports by product groups,
March – July 2022, metric tonnes



Source: Ministry of Agrarian Policy and Food of Ukraine

LOGISTICS OF WAR: INTEGRATED SOLUTIONS

THE KEY IS AN INTEGRATED APPROACH TO SOLVING LOGISTICS ISSUES

WE SIMPLIFY THE LOGISTICS OF EXPORT/IMPORT AS MUCH AS POSSIBLE:

- agreed with 12 EU countries on the free passage of trucks, including on the free transit of fuel trucks by the territory of Poland
- logistics hubs have been established on the territory of Poland, designed to simplify the transportation of humanitarian and military cargoes to Ukraine
- joint control is being implemented at checkpoints with Poland and Romania
- Danube port hub was created for cargo transshipment (Ust-Dunaysk, Reni and Izmail)
- it is planned to build two railway routes for servicing ports:
 - Izmail – Reni
 - Basarabyasca – Berezine
- expanding the capacity of roads leading to the border
- negotiations are underway on the construction of additional rail transshipment terminals on the border with the EU
- it is planned to build a EU standard railway line



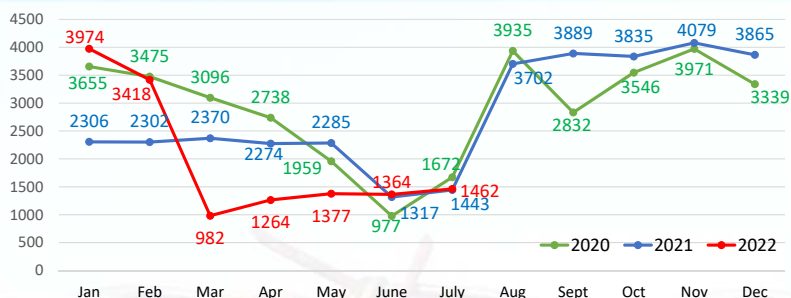
UKRAINE AND THE EU SIGNED THE AGREEMENT
ON LIBERALISATION OF ROAD TRANSPORT



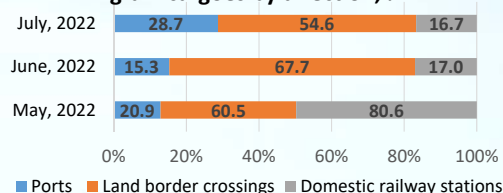
Source: Ministry of Infrastructure of Ukraine



DYNAMICS OF VOLUMES OF TRANSPORTATION OF GRAIN CARGOES IN ALL TYPES OF RAILWAY COMMUNICATION IN UKRAINE, 2020-2022, thousand tonnes



The structure of railway transportation of grain cargoes by direction, %

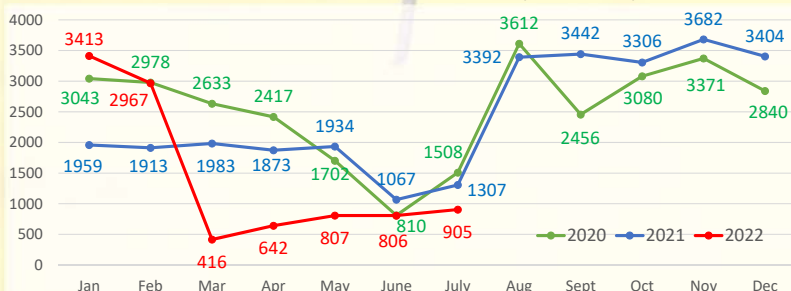


RAIL TRANSPORTATION FOR EXPORT under the war conditions, as of August 15, 2022, thousand tonnes

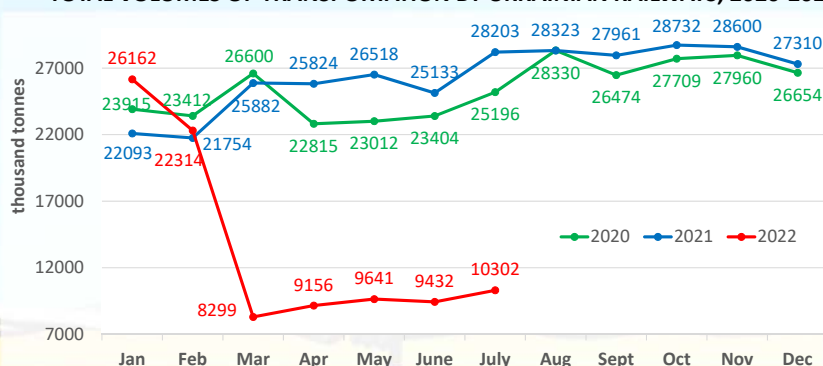
Month	Grain		Oil		Meal, cake, husk	
	2022	+/- to the previous month	2022	+/- to the previous month	2022	+/- to the previous month
March	415.9		20.1		50.0	
April	642.5	↑54.5%	69.8	↑247%	53.2	↑6.3%
May	807.3	↑25.7%	72.4	↑3.7%	69.9	↑31.4%
June	806.3	↓-0.1%	98.9	↑36.7%	73.2	↑4.7%
July	905.2	↑12.3%	88.1	↓-11.0%	93.9	↑28.4%
August*	675.4		48.8		60.6	

Source: based on the data of the Ukrainian Railway

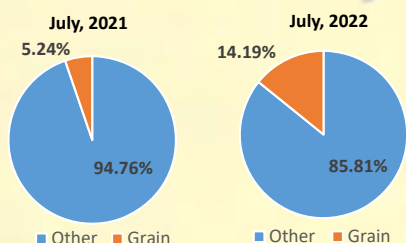
DYNAMICS OF GRAIN EXPORT BY UKRAINIAN RAILWAY, 2020-2022, thousand tonnes



TOTAL VOLUMES OF TRANSPORTATION BY UKRAINIAN RAILWAYS, 2020-2022



SHARE OF GRAIN TRANSPORTATION IN TOTAL VOLUME OF RAIL TRANSPORTATION



- As of August 10, **28.9 thousand wagons** are at the border crossings of Ukraine with EU;
- Among them **8.5 thousand wagons with grain** (15% ↓ compare to July);
- The average daily number of wagons with grain cargoes crossing border is **460 units** (16% ↑ compare to July).

6 500 km

railways were damaged, destroyed or out of control

305

bridges on the state roads were destroyed

24 700 km

of the state roads were damaged

Railway logistic improvement plans:

- Reconstruction and construction of new rail trucks: **1412.8 km** (incl. 585 km HSR) both 1435 and 1520 mm in a direction of the border with EU and Danube seaports;
- Purchase, reaper and modernization of over **7000** rolling stock units;
- Modernization of equipment for changing the track width

TOTAL COST ~ \$1.5 BLN

Source: based on the data Ukrainian Railway and Ministry of Infrastructure of Ukraine

BLACK SEA GRAIN INITIATIVE:

- The purpose: to facilitate the safe navigation for the export of foodstuffs and fertilizers, including ammonia from the Ukrainian ports (Odesa, Chornomorsk, Pivdennyi);
- Agreement term – 120 days, after that could be prolonged;
- The operation is coordinated by the Joint Coordination Centre (JCC) in Istanbul which includes representatives of Ukraine, Turkey, Russia and the United Nations;
- All inspections of ships will be carried out by joint groups in the waters of Turkey;
- No military vessel, aircraft or UAVs will close to within 10 nautical miles of a merchant vessel transiting the Maritime Humanitarian Corridor;
- If demining is necessary, a minesweeper of another country, upon agreement of the parties, will clear the approaches to Ukrainian ports.



Behind-the-scenes agreements:

- Turkey received privileges in grain purchases (price, procurement priority);
- transition of Turkish 5 main banks to the Russian payment system "Mir";
- transition to payment in rubles for part of the Russian gas exported to Turkey;
- lifting restrictions on grain exports from Russia;
- lifting restrictions on fertilizer exports from Russia, including raw materials needed for fertilizer production;
- lifting restrictions on Russian import/export of medicines, medical equipment and accessories and related software;
- adjusting restrictions on import to Russia of aviation industry goods and services.



CHRONOLOGY OF THE EXECUTION OF THE AGREEMENT

"Initiative for the safe transportation of grain and food products from Ukrainian ports"

- On July 22, 2022, the agreements were signed in Istanbul between Ukraine, Turkey, the United Nations and Russia;
- On July 27, the Joint Coordination Centre (JCC) for "grain corridors" organization from Ukrainian ports was officially opened in Istanbul, Turkey;

Commodity	Number of vessels from specific port	Destination country / number of vessels	Tonnage to specific country, metric tonnes	Total tonnage, metric tonnes
Corn	Odesa – 4 Chornomorsk – 10 Pivdennyi – 2	Lebanon – 1	26,527	495,200
		Turkey – 7	138,396	
		Italy – 1	13,041	
		Iran – 2	126,084	
		Ireland – 1	33,000	
		Republic of Korea – 2	124,720	
		Romania – 1	27,982	
		Greece – 1	5,300	
Wheat	Odesa – 1 Chornomorsk – 5 Pivdennyi – 1	Turkey – 4	45,211	103,122
		Egypt – 1	25,500	
		Romania – 1	9,111	
		Djibouti – 1	23,300	
Sunflower oil	Odesa – 1 Chornomorsk – 3 Pivdennyi – 1	Turkey – 3	16,550	28,850
		Italy – 2	12,300	
Sunflower meal	Chornomorsk – 3	China – 1	45,000	68,800
		Turkey – 1	5,300	
		Netherlands – 1	18,500	
Sunflower seeds	Chornomorsk – 1	Turkey – 1	2,914	2,914
Soya beans	Chornomorsk – 1	Italy – 1	11,000	11,000
Sugar beet pellet	Pivdennyi – 1	Republic of Korea – 1	14,000	14,000
TOTAL	34			723,886



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

EXPORT PRICES FOR GRAIN IN UKRAINE (DEEP WATER PORTS)
as of August 20, 2022. Offer, FOB, USD/t

	Min	+/- to previous month	Max	+/- to previous month	Average	+/- to previous month
Food wheat 12.5%	315	-30	340	-25	325	-30
Food wheat 11.5%	310	-30	335	-25	320	-30
Feed wheat	280	-30	300	-25	290	-25
Fodder corn	310	-5	335		320	-5
Fodder barley	290	-15	310	-10	300	-15

EXPORT PRICES FOR GRAIN IN RUSSIA (DEEP WATER PORTS)
as of August 20, 2022. Offer, FOB, USD/t

	Min	+/- to previous month	Max	+/- to previous month	Average	+/- to previous month
Food wheat 12.5%	325	-25	340	-25	330	-25
Feed wheat	285	-25	305	-15	295	-20
Fodder corn	335		350		340	
Fodder barley	290	-5	305	-3	295	-5

WORLD GRAIN PRICES, USD/t

	Stock/month	Country of origin	Terms of delivery	Aug 18	Aug 12	Aug 5	Jul 29	week. change, USD/t	%
The futures market									
Wheat	CBOT, Sept.	USA	EXW	276.8	296.2	285.0	296.7	-19.4	-6.6%
Wheat	CBOT, Aug.	Black Sea	FOB	346.8	354.3	353.5	366.5	-7.5	-2.1%
Milling wheat	Euronext, Sept.	France	CPT Rouen	319.4	349.6	349.4	349.3	-30.2	-8.6%
Wheat	LIFFE, Nov.	EU	EXW	308.8	331.3	324.4	328.3	-22.5	-6.8%
Wheat	BCA, Aug. Argentina		EXW	311.5	310.5	310.0	316.5	1.0	0.3%
Corn yellow	CBOT, Sept.	United States	EXW	246.5	251.8	240.2	242.6	-5.3	-2.1%
Corn	Euronext, Aug.	France	FOB	315.1	347.2	346.8	358.7	-32.1	-9.2%
Corn hard	BCA, Aug. Argentina		EXW	225.0	236.0	230.0	232.0	-11.0	-4.7%
Cash market									
Wheat SRW	Aug	USA	CPT Mex.	305.1	323.7	312.6	318.8	-18.6	-5.8%
Wheat hard	Aug.	Argentina	FOB	408.0	410.0	410.0	410.0	-2.0	-0.5%
Wheat FCW1	Aug.	France	FOB	323.0	355.0	352.0	362.0	-28.0	-8.0%
Corn yellow	Aug.	USA	CPT Mex.	293.7	299.1	287.5	309.5	-5.4	-1.8%
Corn	Aug.	Argentina	FOB	281.0	285.0	275.0	278.0	-4.0	-1.4%
Fodder barley	Aug.	France	FOB	281.4	308.5	359.6	297.6	-27.1	-8.8%

SOWN AREA OF WINTER CROPS FOR GRAIN FOR THE 2022 HARVEST

Winter crops	thousand hectares	in % to area under the harvest 2021
Winter crops for grain and green fodder, including:	9093.1	100.5
• winter cereal crops for grain	7625.3	95.6
among which:		
- wheat	6538.4	97.4
- rye	108.5	65.1
- barley	969.0	89.6
• rapeseed for grain	1413.5	139.7

Sown areas under wheat for 2021/2022 MY, thousand hectares



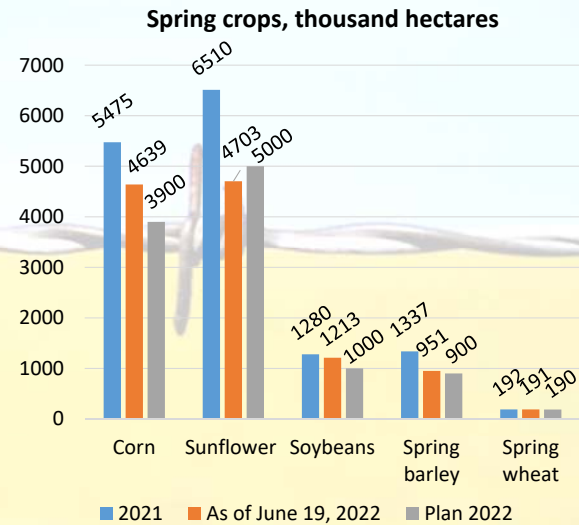
Regions	thousand hectares	in % to area under the harvest 2021
Ukraine	7625.3	95.6
Vinnitsya	325.3	100.3
Volyn	176.8	96.3
Dnipropetrovsk	609.5	90.0
Donetsk	394.9	99.5
Zhytomyr	141.9	91.7
Zakarpattia	17.6	71.8
Zaporizhzhya	732.9	92.2
Ivano-Frankivsk	58.6	114.5
Kyiv	200.4	95.8
Kirovohrad	445.8	95.0
Luhansk	329.9	106.8
Lviv	177.3	102.8
Mikolayiv	629.7	89.6
Odesa	795.1	95.1
Poltava	273.5	106.7
Rivne	126.5	94.4
Sumy	177.5	97.1
Ternopil	206.5	102.4
Kharkiv	591.6	98.8
Kherson	562.6	91.7
Khmelnitskiy	228.2	110.3
Cherkasy	208.1	88.8
Chernivtsi	39.2	106.8
Chernihiv	175.9	87.3

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

SOWN AREA OF SPRING CROPS IN UKRAINE IN 2022

Planned sown area for spring crops in 2022 - **14.163 million hectares** (or **83.72%** of sown area in 2021)
Planted in 2022 - **13.431 million hectares** (**79.4%** of the last year level and **94.8%** of planned area)

Crops	Sown, thousand hectares		2022 to 2021
	2021	as of June 19, 2022	
Total	16916.3	13431.2	79.4%
Spring cereals and legumes	7457.1	6106.3	81.8%
including:			
• <i>spring wheat</i>	192.1	191.1	99.4%
• <i>spring barley</i>	1337.0	951.4	71.2%
• <i>spring rapeseed</i>	33.2	34.1	102.7%
• <i>oats</i>	177.9	159.3	89.5%
• <i>peas</i>	242.1	131.0	54.1%
• <i>corn</i>	5474.8	4639.4	84.7%
Buckwheat	84.0	75.3	89.6%
Millet	78.1	49.5	63.3%
Sugar beet	224.7	180.6	80.4%
Sunflower	6509.7	4702.7	72.2%
Soybeans	1279.6	1212.6	94.8%
Potato	1283.1	1104.2	86.1%



Source: *the Ministry of Agrarian Policy and Food of Ukraine

TOTAL HARVEST OF GRAIN, LEGUMINOUS AND OIL CROPS IN UKRAINE, 2020-2022, thousand metric tonnes

Regions	Total volume of harvest		Harvested as of August 19			
	2020	2021	2020	2021	2022	+/-2022 to 2021,%
Ukraine	63,530.4	83,209.6	38,562.0	45,311.2	25,973.8	-42.68
Vinnitsya	4,353.2	6,705.0	2,143.0	2,472.9	1,989.2	-19.56
Volyn	1,197.0	1,381.4	1,292.6	1,029.4	1,030.3	0.09
Dnipropetrovsk	3,548.9	4,818.5	3,235.3	3,565.3	2,561.8	-28.15
Donetsk	1,974.2	2,249.8	2,022.2	1,981.5		
Zhytomyr	2,322.6	3,198.9	834.7	1,120.0	826.9	-26.17
Zakarpattia	360.4	317.5	115.4	97.9	111.9	14.30
Zaporizhzhya	2,969.1	3,522.9	3,320.5	3,375.8		
Ivano-Frankivsk	793.8	876.6	495.9	424.2	522.7	23.22
Kyiv	2,901.6	3,809.7	1,281.8	1,477.8	1,143.7	-22.61
Kirovohrad	2,606.7	4,624.7	1,866.7	2,595.4	2,199.5	-15.25
Luhansk	1,362.1	1,274.7	1,257.4	1,206.8		
Lviv	1,394.7	1,733.8	1,236.2	964.9	1,012.5	4.93
Mikolayiv	2,376.3	3,722.8	2,426.3	3,401.6	1,833.7	-46.09
Odesa	1,995.3	5,122.0	1,690.6	4,234.1	2,705.9	-36.09
Poltava	5,098.0	5,659.1	1,515.1	1,730.4	1,501.9	-13.21
Rivne	1,223.5	1,577.8	875.5	854.5	762.0	-10.83
Sumy	4,769.7	4,256.2	1,176.9	1,173.1	1,021.5	-12.92
Ternopil	2,600.5	3,120.8	1,651.8	1,600.6	1,499.1	-6.34
Kharkiv	4,795.8	4,814.2	3,286.7	3,462.1	857.9	-75.22
Kherson	2,700.1	3,499.7	2,526.0	3,344.1		
Khmelnitskiy	4,029.4	5,254.6	1,726.0	1,992.3	1,856.5	-6.82
Cherkasy	2,745.3	4,875.7	1,235.5	1,750.2	1,434.5	-18.04
Chernivtsi	596.7	679.7	340.5	279.8	264.0	-5.65



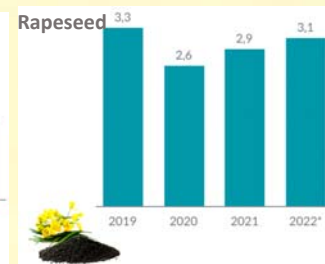
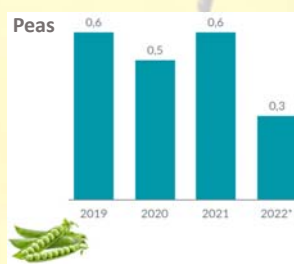
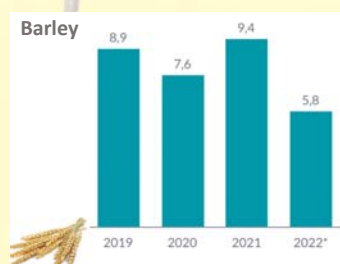
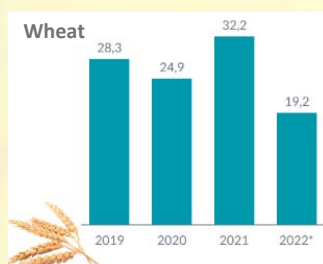
PROGRESS OF FIELD WORK IN UKRAINE

Harvesting of grain, legumes and oil crops as of August 19, 2022

Crops	Forecast, thousand hectares	Harvested, thousand hectares	Harvested, thousand metric tonnes	Average 2022 yields, metric tonnes per hectare / bushels per acre	Average 2021 yields, metric tonnes per hectare / bushels per acre
Grain and legumes total, including:	6,465.5	5,940.7	22,908.2	3.86	5.50
• wheat	4,713.4	4,303.4	17,385.6	4.04 / 60.07	4.64 / 69.00
• barley	1,595.9	1,526.1	5,271.2	3.45 / 64.13	3.92 / 72.86
• peas	111.5	108.0	243.7	2.26 / 33.61	2.43 / 36.13
Rapeseed	1,093.8	1,077.2	3,057.6	2.84 / 50.68	2.95 / 52.64
Sunflower	4,695.6	10.0	8.0	0.8 / 23.79	2.52 / 74.94

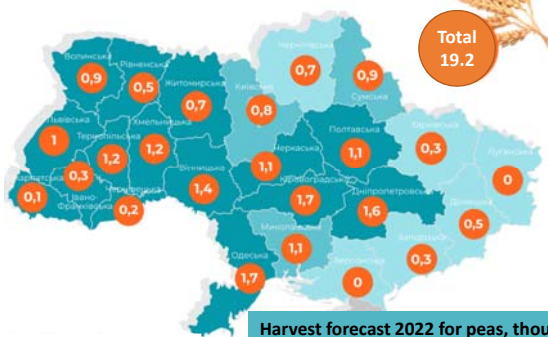


Grain harvest forecast 2022 for winter crops as of August 8, 2022, million metric tonnes

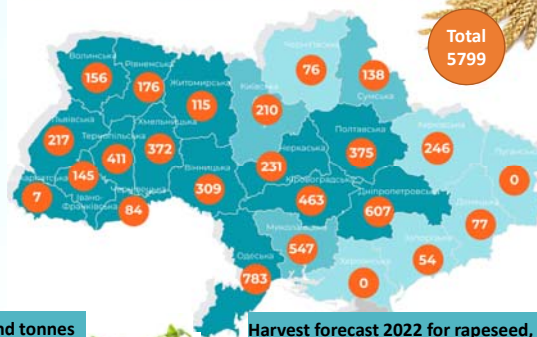


Source: based on the data of the State Statistic Service of Ukraine and Ukrainian Agribusiness Club

Harvest forecast 2022 for wheat, million tonnes



Harvest forecast 2022 for barley, thousand tonnes



Harvest forecast 2022 for peas, thousand tonnes



Harvest forecast 2022 for rapeseed, thousand tonnes



● >50% of the territory was affected by active hostilities;
● <50% of the territory was affected by active hostilities;
● territories without active hostilities.

Losses of Ukraine's economy

from damage of physical infrastructure since the beginning of hostilities (in case of complete destruction)

AS OF AUGUST, 22, 2022

TOTAL
\$ 113,5
billion

Property types	Damages, \$ bln	Number of items, units
Housing*	47,8	131,3 thousand
Private houses	5,4	115,9 thousand
Apartment buildings	42,3	15,27 thousand
Transportation infrastructure*	35,1	-
Roads	26,3	24,8 thousand km
Civilian airports	2,0	19
Industry and business services	9,5	388
Agricultural sector and land resources	4,3	-
Social services	0,3	119
Veicles*	3,0	206 thousand
Cars	1,7	188,1 thousand
Public transport	1,0	17,9 thousand
Education	3,8	2290
Education institutions	3,1	1492
Kindergartens	0,7	798
Commerce	2,1	2930
Energy	1,8	-
Health care	1,6	934
Utilities	1,3	-
Culture, religion, sport, and tourism	1,3	1117
Cultural facilities	0,6	715
Religious buildings	0,1	77
Sports facilities	0,2	186
Tourists facilities	-	113
Youth centers	-	26
Administrative buildings	0,9	511
Digital infrastructure	0,6	726
Financial sector	0,02	-
Total	113,5	-



Damages, losses and reconstruction and recovery needs by sector breakdown, in monetary terms

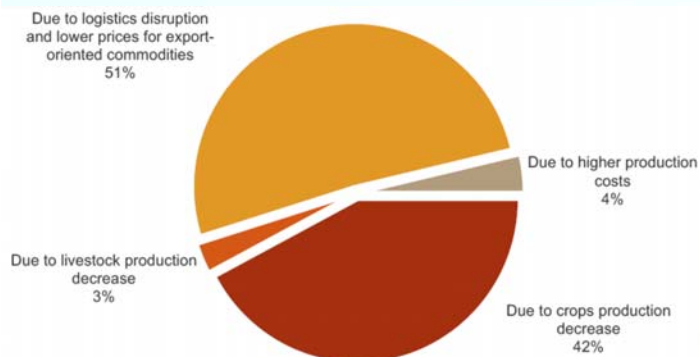
AS OF AUGUST, 22, 2022

Property types	Damages, \$ bln	Losses, \$ bln	Reconstruction and recovery needs, \$ bln
Housing	47,8	3,5	75,3
Transportation infrastructure	35,1	18,7	51,1
Industry and business services	9,5	29,9	19,2
Agri sector and land resources	4,3	23,4	17,5
Social services	0,3	6,4	6,7
Vehicles	3,0	0,2	6,0
Education	3,9	2,1	4,8
Commerce	2,1	23,3	3,9
Energy	1,8	11,6	3,5
Health care	1,6	2,7	2,5
Utilities	1,3	2,3	1,7
Culture, religion, sport, and tourism	1,3	4,3	2,3
Administrative buildings	0,9	0,1	1,3
Digital infrastructure	0,6	1,1	1,0
Financial sector	0,02	0,2	0,02
Total	113,5	129,7	197,0
Additional needs for demining			
Demining (according to the World Bank preliminary assessment)			70
Total, with demining			267

Source: Kyiv School of Economics

LOSSES FROM THE WAR IN UKRAINIAN AGRICULTURE as of 22nd of June, 2022 (Indirect assessment of damage)

LOSSES STRUCTURE BY CATEGORY



The indirect losses in agriculture due to production decrease, logistics disruption and lower prices for export-oriented commodities are estimated at \$23.3 billion.

Source: Kyiv School of Economics

LOSSES VALUE BY CATEGORY

Losses due to crops production decrease **\$9.6 BILLION**

Item	Pre-war 2021 volume, million tonnes	After-war 2022 forecasted volume, million tonnes	Value of losses, million \$
Wheat	32.15	21.54	2,027
Corn	42.11	34.70	1,296
Barley	9.44	6.59	564
Sunflower	16.39	11.16	2,427
Other crops	73.18	58.11	3,537

Losses due to logistics disruption and lower prices for export-oriented commodities **\$11.9 BILLION**

Item	Difference in farmgate prices, \$/Kg	Value of losses, million \$
Wheat	\$0.09	2,958
Corn	\$0.10	4,127
Barley	\$0.07	670
Sunflower	\$0.26	4,180

Losses due to higher production costs **\$859 MILLION**

Item	Amount needed for 2022	Value of losses, million \$
Fertilizer	3.22 million tonnes	379
Fuel	1,228 million liters	480

BALANCE OF SUPPLY AND DEMAND OF GRAIN AND LEGUMES IN UKRAINE (*forecast as of August 19, 2022)

	2020/21	2021/22	2022/23*		Deviation , %		
	thousand tonnes	thousand tonnes	thousand tonnes		2021/22 - 2020/21	2022/23 - 2021/22	
			optimistic	pessimistic		optimistic	pessimistic
Initial stocks	4 866	5 861	15 360	15 360	+20.4%	in +2.6 times	in +2.6 times
Sown area, thousand hectares	15 392	15 995	13 997	13 997	+3.9%	-12.5%	-12.5%
Harvested area, thousand hectares	15 283	15 948	11 435	10 787	+4.4%	-28.3%	-32.4%
Yield, tonnes / hectare	4.25	5.39	4.58	4.87	+26.8%	-15.0%	- 9.7%
Gross harvest	64 933	86 010	55 368	52 495	+32.5%	-35.6%	-39.0%
Import	208	119	139	142	-42.5%	+16.0%	+18.5%
Total supply	70 008	91 991	70 867	67 997	+31.4%	-23.0%	- 26.1%
Domestic consumption:	18 784	26 452	19 502	19 376	+40.7%	-26.2%	-26.7%
food	3 490	3 415	2 724	2 602	-2.2%	-20.2%	-23.8%
fodder	10 520	14 375	10 930	10 930	+36.6%	-24.0%	-24.0%
seeds	2 224	1 928	2 109	1 576	-13.3%	+9.4%	-18.3%
losses	1 525	5 742	2 815	3 342	in +3.8 times	-51.0%	- 41.8%
other (alcohol, malt, starch, etc.)	1 021	964	915	915	- 5.5%	-5.1%	- 5.1%
Export	45 363	50 199	39 577	22 920	+10.7%	-21.2%	- 54.3%
Total distribution (demand)	64 147	76 631	59 079	42 296	+19.5%	-22.9%	- 44.8%
Ending stocks	5 861	15 360	11,788	25,701	in +2.6 times	-23.3%	+67.3%
Ratio of ending stocks to distribution	9%	20%	20%	61%			

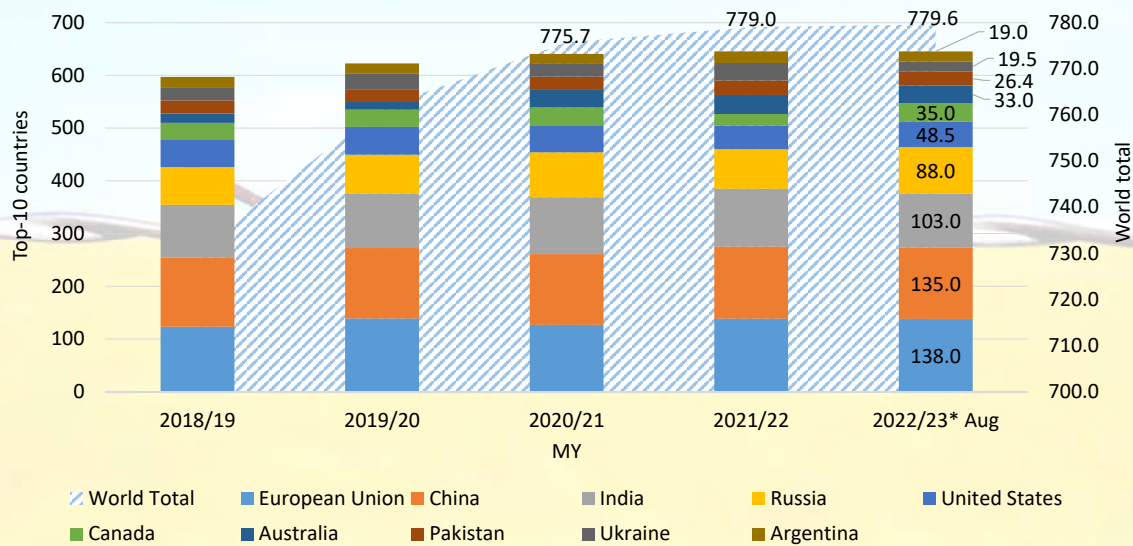
Source: based on "APK-Inform", the State Statistic Service of Ukraine and the State Customs Service of Ukraine

UKRAINE AGRICULTURAL PRODUCTION AND EXPORTS (2022/23 MARKETING YEAR)

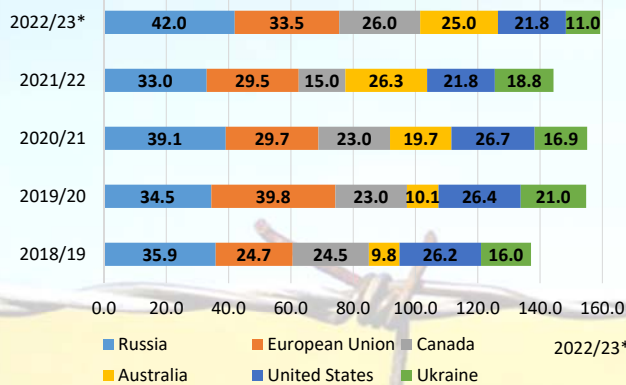
Product	Production			Exports		
	Volume (1,000 MT)	Rank Among Global Producers	% of Global Production	Volume (1,000 MT)	Rank Among Global Exporters	% of Global Exports
Corn	25,000	#8	2.1%	9,000	#4	4.9%
Wheat	21,500	#9	2.8%	10,000	#8	4.9%
Sunflower	9,500	#3	19.3%	750	#1	20.7%
Barley	5,700	#7	3.9%	1,800	#6	5.9%
Sunflower Oil	4,085	#3	21.4%	3,600	#1 joint	34.7%
Sunflower Meal	3,924	#3	19.0%	2,700	#1	39.8%
Rapeseed	3,200	#6	4.0%	2,750	#3	16.6%

Source: USDA WASDE and PSD Database, as of July 12, 2022.

DYNAMICS OF WORLD WHEAT PRODUCTION,
million metric tonnes
(forecast as of August 12, 2022)

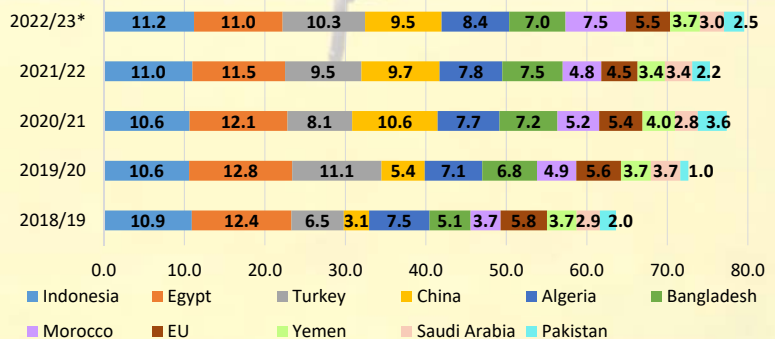


Dynamics of wheat shipments from key exporting countries,
million metric tonnes

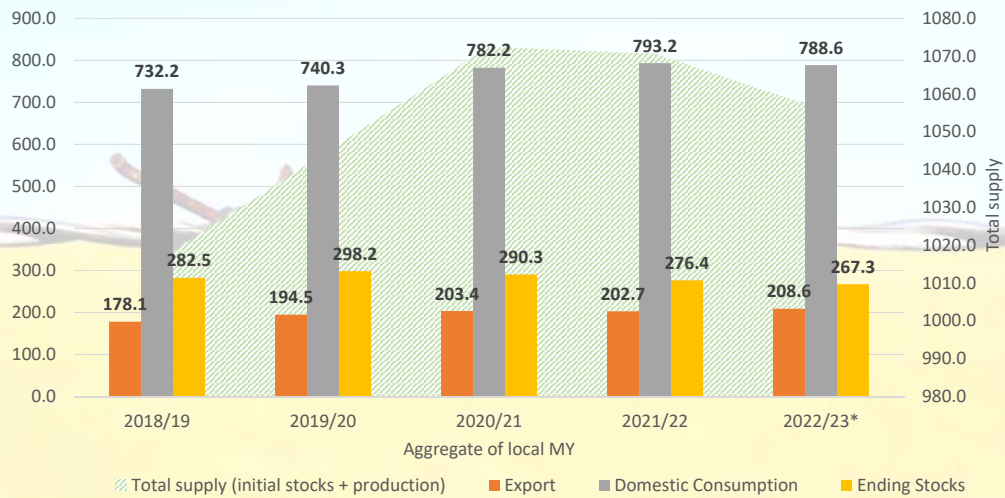


WORLD EXPORT-IMPORT WHEAT DYNAMICS
(forecast as of August 12, 2022)

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



DYNAMICS OF WORLD WHEAT DEMAND AND SUPPLY,
million metric tonnes
(forecast as of August 12, 2022)



Source: based on the data of the USDA

Thank you!

Questions?