

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

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## OUTLINE :

1. DAMAGES FROM THE WAR
2. PROGRESS OF FIELD WORK IN UKRAINE, COMMODITIES SUPPLY AND DEMAND
3. UKRAINIAN AGRICULTURAL EXPORT DYNAMICS AND LOGISTICS
4. WORLD WHEAT MARKET TENDENCIES
5. REBUILDING UKRAINIAN AGRICULTURE





October 10, 2022 – 84 missiles and 24 kamikaze drones  
 October 11, 2022 – 28 missiles and 14 kamikaze drones  
 October 22, 2022 – 36 missiles and 16 kamikaze drones

**Damages and destroyed infrastructure objects of Ukraine total**  
**\$ 127 bln**



housing

135,8 thousand units



industry and business

412 units



vehicles

188,1 thousand units



education

2483 units



healthcare

978 units



culture and sports

1077 units

40% of energy system is destroyed



	Property type	Damage assessment, \$ billion	Share of damage by type of property, % of the total amount
	Residential buildings	50,5	39,7%
	Infrastructure	35,3	27,8%
	Enterprise assets, industry	9,9	7,8%
	Agriculture and land resources	6,6	5,2%
	Social sphere	0,2	0,1%
	Vehicles	2,7	2,1%
	Education	7,0	5,5%
	Trade	2,4	1,9%
	Energy	3,6	2,8%
	Healthcare	1,6	1,3%
	Utilities	2,3	1,8%
	Culture, tourism, sports	2,0	1,6%
	Administrative buildings	0,8	0,7%
	Digital infrastructure	0,6	0,4%
	Financial sector	0,1	0,1%
	Environment	1,5	1,2%
	<b>Total</b>	<b>127,0</b>	<b>100%</b>

Source: Kyiv School of Economics, October 21, 2022

### DIRECT LOSSES FROM THE WAR IN UKRAINIAN AGRICULTURE

Type of losses	Unit	Baseline, units	Damages, units	Damages, \$ bln
<b>Totally Damaged</b>				
Agricultural machinery	pcs	764,323	58,882	2.7
Storage facilities	volume, thousands of tonnes	75,084	6,501	1.0
Livestock (including poultry)	heads, thousands	203,292	12,487	0.3
Destroyed beehives	bee colonies	2,272,740	11,0375	0.1
Perennial crops	hectares	197,100	14,340	0.3
Destroyed and stolen inputs	metric tonnes	962,951	135,993	0.1
Destroyed and stolen grain and oilseeds	metric tonnes	25,486,613	4,037,542	1.9
<b>Partially Damaged</b>				
Killed and missing bees	bee colonies	2,272,740	25,194	0.2
Agricultural machinery	pcs	764,323	29,162	0.3
Storage facilities	volume, thousands of tonnes	75,084	2,916	0.1
<b>Total damages</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>6.9</b>

22% of Ukraine's farmland, including 29 % of winter crops, 21% of summer/spring crops, 13% of rapeseed are under Russian control



Source: Kyiv School of Economics, October 21, 2022

### PROGRESS OF FIELD WORK IN UKRAINE

#### Harvesting of grain, legumes and oil crops as of October 21, 2022

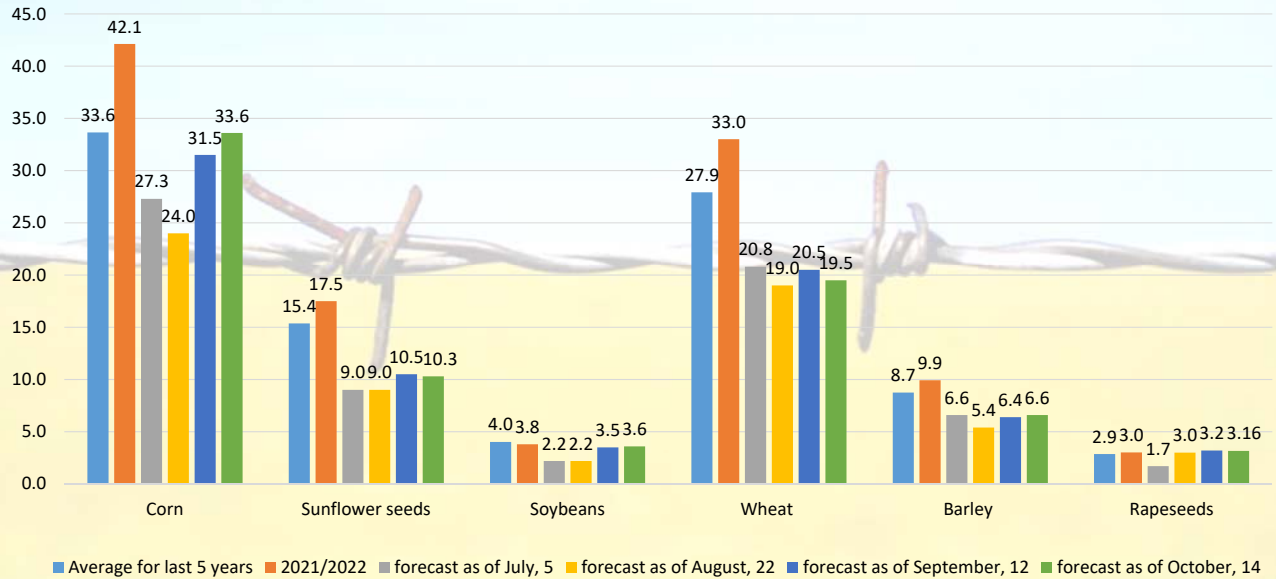
Crops	Forecast, thousand hectares	Harvested, thousand hectares	% of harvested area	Harvested, thousand metric tonnes	Average 2022 yields, metric tonnes per hectare / bushels per acre	Average 2021 yields, metric tonnes per hectare / bushels per acre	Change in yields 2022 to 2021, %
<b>Grain and legumes total, including:</b>	<b>10,809.4</b>	<b>7,090.6</b>	<b>65.6 %</b>	<b>28,196.8</b>	<b>3.98</b>	<b>5.50</b>	<b>-27.6 %</b>
• wheat	4,715.3	4,711.4	99.9 %	19,422.8	4.12 / 61.26	4.64 / 69.00	-11.2 %
• barley	1,595.9	1,591.8	99.7 %	5,599.6	3.51 / 65.24	3.92 / 72.86	-10.5 %
• peas	111.5	111.5	100.0 %	260.8	2.34 / 34.80	2.43 / 36.13	-3.7 %
• buckwheat	117.4	103.7	88.3 %	141.3	1.36 / 25.28	1.30 / 24.16	4.6 %
• millet	44.7	41.6	93.1 %	96.8	2.33 / 35.23	2.52 / 38.11	-7.5 %
• corn	4,224.6	527.6	12.5 %	2,675.6	5.07 / 80.77	8.01 / 127.61	-36.7 %
Soybeans	1,522.8	797.8	52.4 %	1,885.3	2.36 / 35.09	2.68 / 39.85	-11.9 %
Rapeseed	1,093.8	1,091.9	99.8 %	3,151.7	2.89 / 51.57	2.95 / 52.64	-2.0 %
Sunflower	4,695.6	3,178.7	67.7 %	6,946.9	2.19 / 65.13	2.52 / 74.94	-13.1 %



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



### ESTIMATED HARVEST IN UKRAINE as of October 14, 2022, million metric tonnes



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

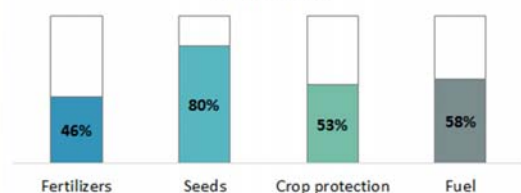
### PROGRESS OF FIELD WORK IN UKRAINE

#### Sowing of winter crops, thousand hectares

Crops	Planted in 2020	Planted in 2021	Forecast for 2022	Forecast 2022 to planted in 2021	Planted as of October 25, 2022	% of planted to forecast 2022
<b>Winter crops total, including:</b>	8,973.5	9,029.4	5,714.6	- 36.71 %	4,608.7	80.65 %
•winter wheat	6,714.4	6,538.4	3,989.4	- 38.99 %	3,146.0	78.86 %
•winter barley	1,080.4	969.0	675.7	- 30.27 %	389.8	57.69 %
•winter rapeseeds	1,011.9	1,413.5	963.9	- 31.81 %	998.9	103.63 %
•winter rye	166.8	108.5	85.6	- 21.11 %	74.0	86.45 %



#### Provision of Ukrainian farmers with main resources for winter planting campaign for harvest-2023



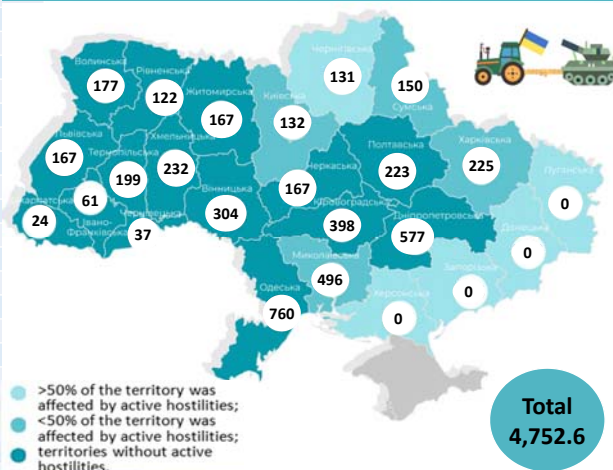
Source: based on the data of the State Statistic Service of Ukraine

# PROGRESS OF FIELD WORK IN UKRAINE

## Sowing of winter grain crops, thousand hectares, as of October 25, 2022

Regions	Planted		As of October 25, 2022		Forecast 2022 to	Planted 2022 to
	2020	2021	Forecast	Planted	planted 2021,%	forecast 2022,%
Vinnitsya	348.7	359.0	303.8	257.3	84.6	84.69
Volyn	185.5	185.0	176.7	156.7	95.5	88.68
Dnipropetrovsk	567.7	575.4	577.3	387.6	100.3	67.13
Donetsk	351.1	379.4	0.0	0.0	0.0	0.0
Zhytomyr	119.5	182.2	167.5	126.4	91.9	75.46
Zakarpattia	25.9	25.2	24.0	14.8	95.2	61.67
Zaporizhzhya	676.0	541.5	0.0	0.0	0.0	0.0
Ivano-Frankivsk	69.4	49.7	61.0	40.6	122.7	66.56
Kyiv	188.0	211.5	131.6	141.0	62.2	107.14
Kirovohrad	374.0	351.6	398.5	292.4	113.3	73.38
Luhansk	284.8	292.8	0.0	0.0	0.0	0.0
Lviv	141.6	172.6	167.4	112.2	97.0	67.03
Mikolayiv	615.5	648.3	495.9	391.1	76.5	78.87
Odesa	670.0	551.3	760.5	492.3	137.9	64.73
Poltava	238.1	263.2	223.5	191.9	84.9	85.86
Rivne	124.5	137.1	122.0	98.8	89.0	80.98
Sumy	112.1	170.3	150.0	105.8	88.1	70.54
Ternopil	184.5	216.8	199.3	183.6	91.9	92.12
Kharkiv	506.4	520.6	225.0	122.5	43.2	54.46
Kherson	574.1	570.2	0.0	0.0	0.0	0.0
Khmelnyskiy	153.0	227.1	232.5	204.2	102.4	87.83
Cherkasy	118.7	212.4	167.2	133.2	78.7	79.67
Chernivtsi	46.9	44.7	37.5	28.5	83.9	76.00
Chernihiv	175.8	202.5	131.4	130.7	64.9	99.47
Ukraine	6,851.9	7,090.5	4,752.6	3,611.6	67.0	75.99

## 2022/23 winter crops sowing campaign forecast, thousand hectares



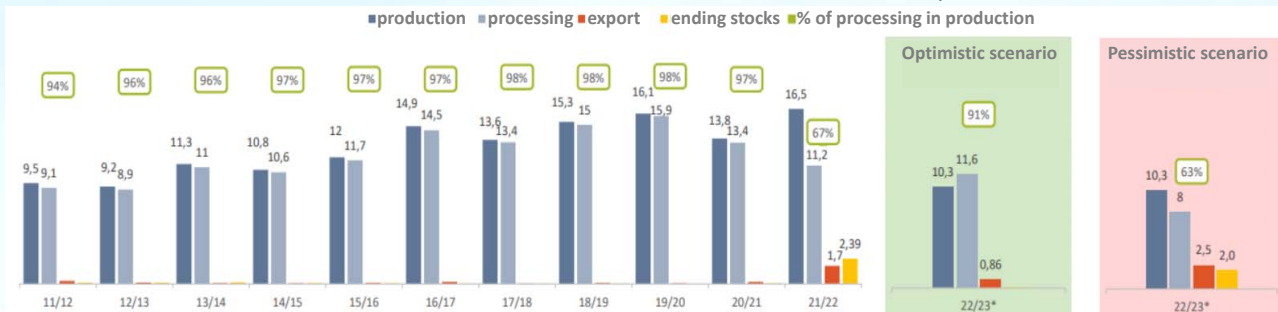
Source: based on the data of the State Statistic Service of Ukraine

## BALANCE OF SUPPLY AND DEMAND OF GRAIN AND LEGUMES IN UKRAINE (\*forecast as of October 14, 2022)

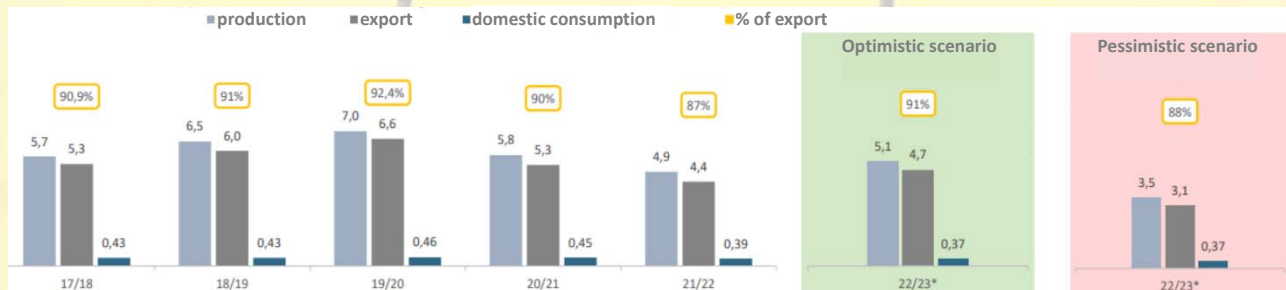
	2020/21	2021/22	2022/23*		Deviation, %		
	thousand tonnes	thousand tonnes	thousand tonnes		2021/22 - 2020/21	2022/23 - 2021/22	
			optimistic	pessimistic		optimistic	pessimistic
Initial stocks	4,866	5,861	13,356	13,356	+20.4%	in +2.3 times	in +2.3 times
Sown area, thousand hectares	15,392	15,995	13,997	13,997	+3.9%	-12.5%	-12.5%
Harvested area, thousand hectares	15,283	15,948	11,402	11,327	+4.4%	-28.5%	-29.0%
Yield, tonnes / hectare	4.25	5.39	4.58	4.70	+26.8%	-15.0%	-12.9%
Gross harvest	64,933	86,010	53,609	53,196	+32.5%	-37.7%	-38.2%
Import	208	123	124	107	-40.8%	+0.5%	-13.2%
Total supply	70,008	91,995	67,089	66,659	+31.4%	-27.1%	-27.5%
Domestic consumption:	18,784	26,432	19,107	18,992	+40.7%	-27.7%	-28.1%
food	3,490	3,403	2,724	2,602	-2.5%	-20.0%	-23.5%
fodder	10,520	14,375	10,755	10,755	+36.6%	-25.2%	-25.2%
seeds	2,224	1,928	2,109	1,576	-13.3%	+9.4%	-18.3%
losses	1,525	5,742	2,624	3,213	in +3.8 times	-54.3%	-44.0%
other (alcohol, malt, starch, etc.)	1,021	976	885	835	-4.4%	-9.3%	-14.4%
Export	45,363	52,207	40,007	23,935	+15.1%	-23.4%	-54.2%
Total distribution (demand)	64,147	78,639	59,114	42,927	+22.6%	-24.8%	-45.4%
Ending stocks	5,861	13,356	7,975	23,732	in +2.3 times	-40.3%	+77.7%
Ratio of ending stocks to distribution	9%	17%	13%	55%			

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

### DYNAMICS OF PRODUCTION AND SUPPLY OF SUNFLOWER SEEDS, million metrics tonnes



### DYNAMICS OF PRODUCTION AND SUPPLY OF SUNFLOWER OIL, million metrics tonnes

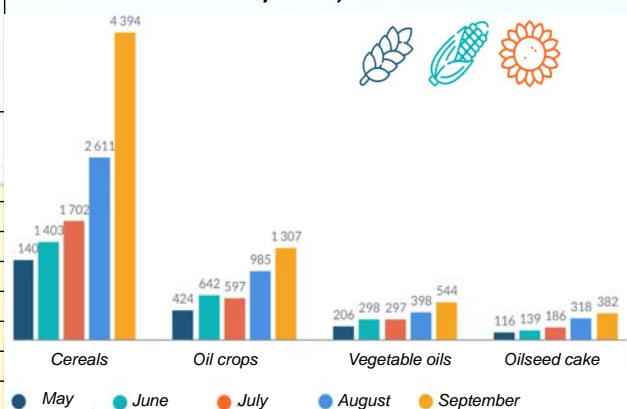


Source: based on "APK-Inform", the State Statistic Service of Ukraine and the State Customs Service of Ukraine

### EXPORT OF CEREALS and LEGUMES with products of their processing as of October 26, thousand tonnes

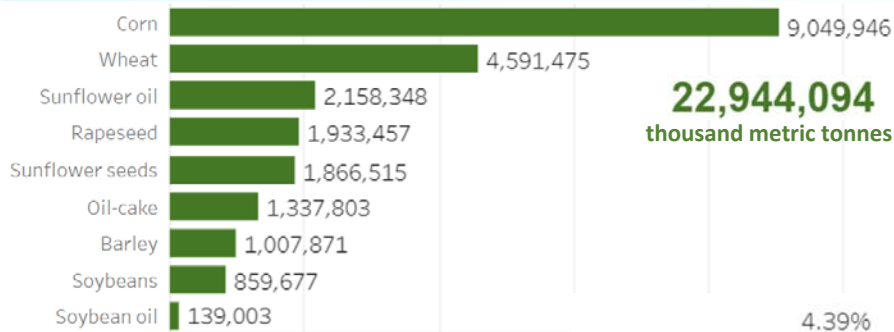
	2020/2021 MY Total	2021/2022 MY		2022/2023 MY	
		Total	including: for October 2021	Total	including: for October 2022
<b>Cereals and legumes, total</b>	<b>43939</b>	<b>48508</b>	<b>3826</b>	<b>12185</b>	<b>3493</b>
• wheat	16413	18741	2800	4623	1582
• barley	4210	5752	427	1041	267
• rye	15,8	161,5	11,9	6,2	1,9
• corn	22596	23535	570	6476	1632
Wheat flour	123,7	69,4	6,0	31,5	9,4
Other flour	1,1	1,5	0,1	2,7	0,3
<b>Total flour</b>	<b>124,8</b>	<b>70,9</b>	<b>6,1</b>	<b>34,3</b>	<b>9,7</b>
<b>Total export (grain + flour)</b>	<b>44105</b>	<b>48579</b>	<b>3832,1</b>	<b>12219,3</b>	<b>3502,7</b>

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

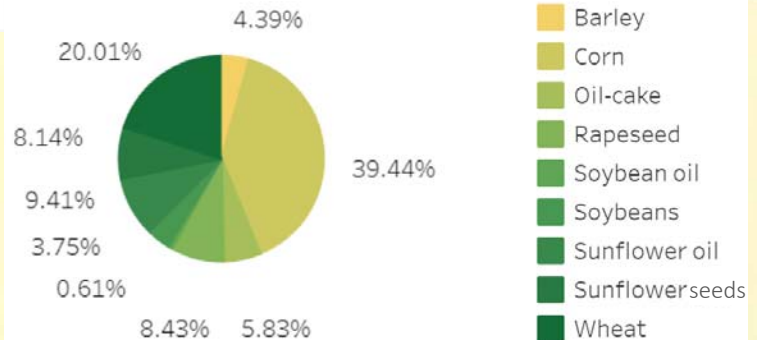


Source: based on data of State Customs Service of Ukraine

**BORDER-CROSSING FROM UKRAINE BY TYPES OF PRODUCTS,  
March, 1 – October 16, 2022**

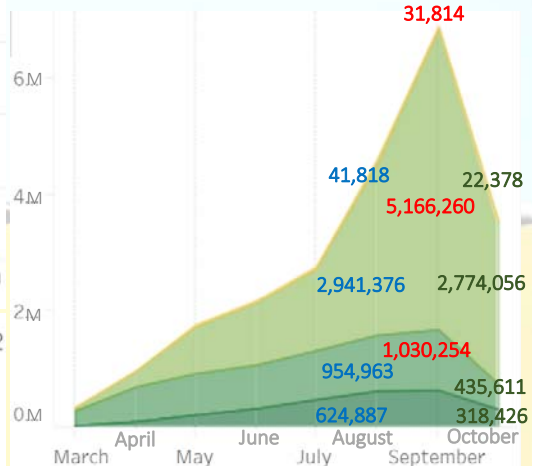
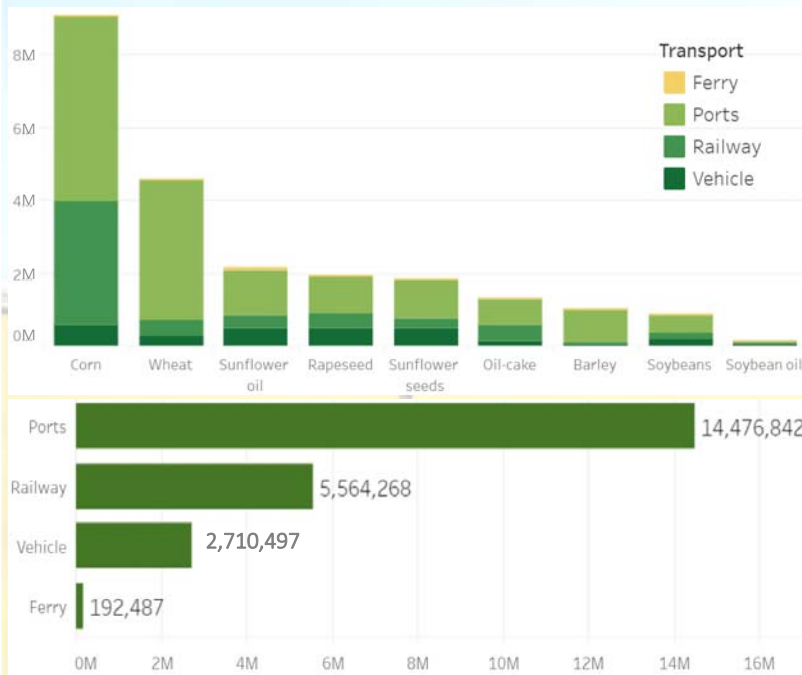


**Border-crossing structure, %**



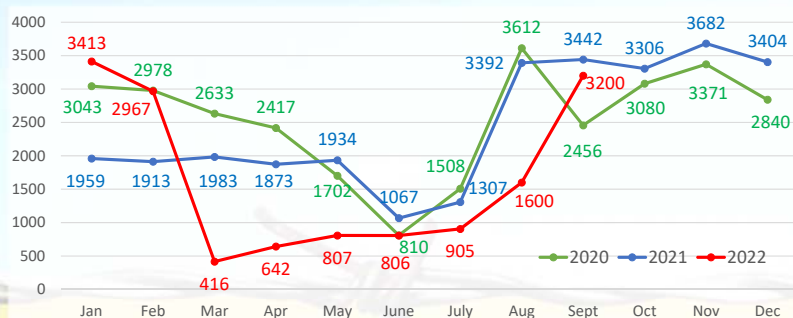
Source: Ministry of Agrarian Policy and Food of Ukraine  
Ministry of Infrastructure of Ukraine

**BORDER-CROSSING FROM UKRAINE IN TRANSPORTATION BREAKDOWN,  
March, 1 – October 16, 2022, metrics tonnes**



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

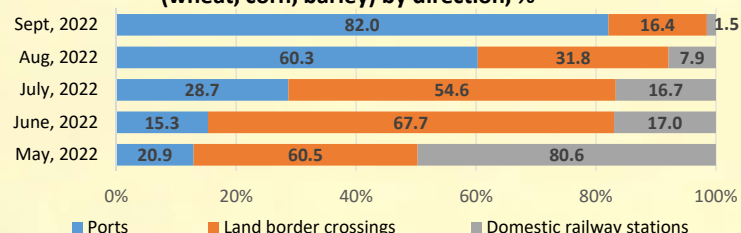
# **DYNAMICS OF GRAIN TRANSPORTATION FOR EXPORT BY UKRAINIAN RAILWAY, 2020-2022, thousand tonnes**



## **RAIL TRANSPORTATION FOR EXPORT under the war conditions, as of October 25, 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	1.6M	↑76.9%	108.0	↑22.6%	148.1	↑57.7%
Septem.	3.2M	↑97.6%	127.8	↑18.4%	168.0	↑13.5%
October, 25	2.4M		97.3		148.0	

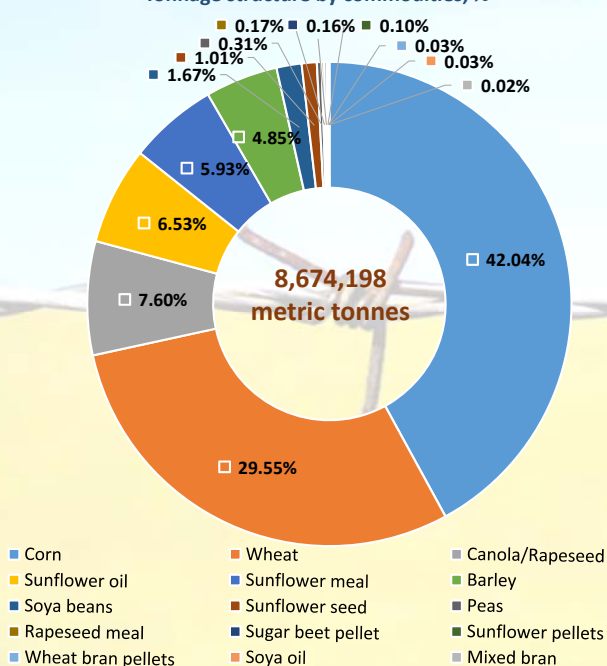
## **The structure of railway transportation of grain cargoes (wheat, corn, barley) by direction, %**



Source: based on the data of the Ukrainian Railway

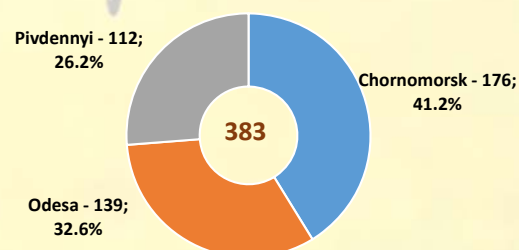
## **EXECUTION OF THE AGREEMENT "Initiative for the safe transportation of grain and food products from Ukrainian ports"**

### **Tonnage structure by commodities, %**



- 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;
- On August 1, the first ship (RAZONI) carrying 26 thousand tonnes of Ukrainian corn left the Odesa port since February 24;
- As of 24 October, 383 voyages have carried 8,674,198 metric tonnes of grains and other foodstuffs from Ukrainian ports.

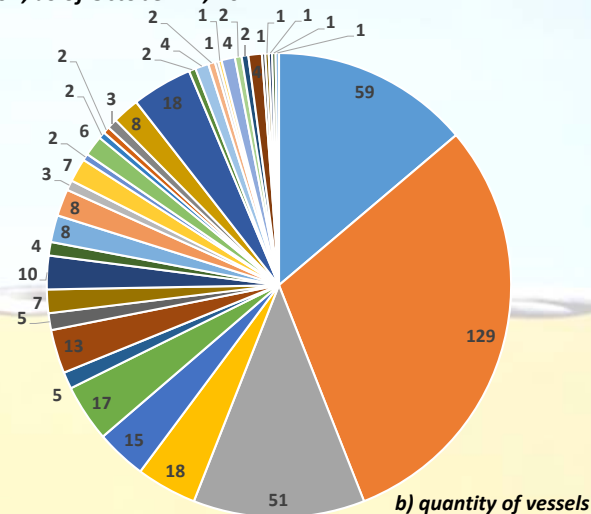
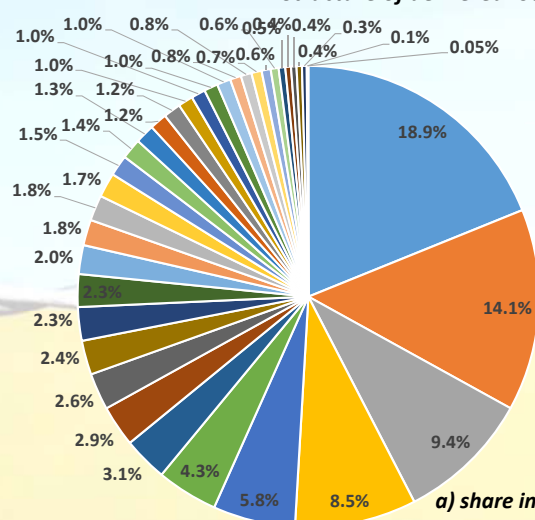
### **Number of grain cargoes left Ukrainian Black Sea ports under "grain agreement"**



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

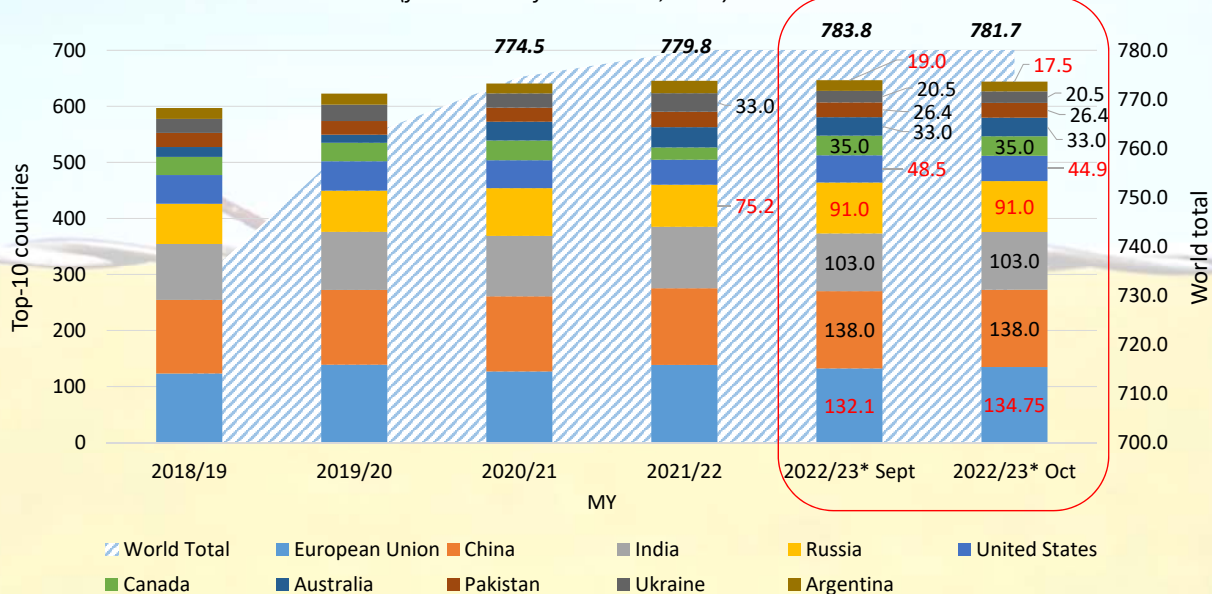


**EXECUTION OF THE AGREEMENT "Initiative for the safe transportation of grain and food products from Ukrainian ports"**  
**Structure of delivered loads by destination, as of October 24, 2022**



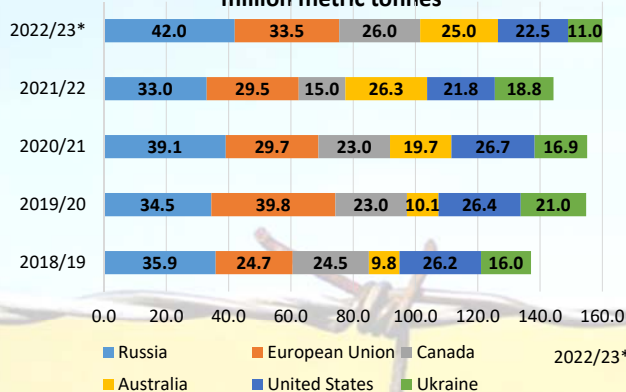
Source: based on the data of the Black Sea Grain Initiative Joint Coordination Centre

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



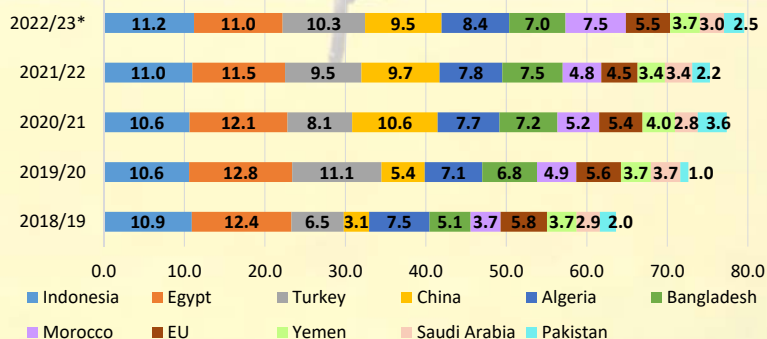
Source: based on the data of the USDA

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



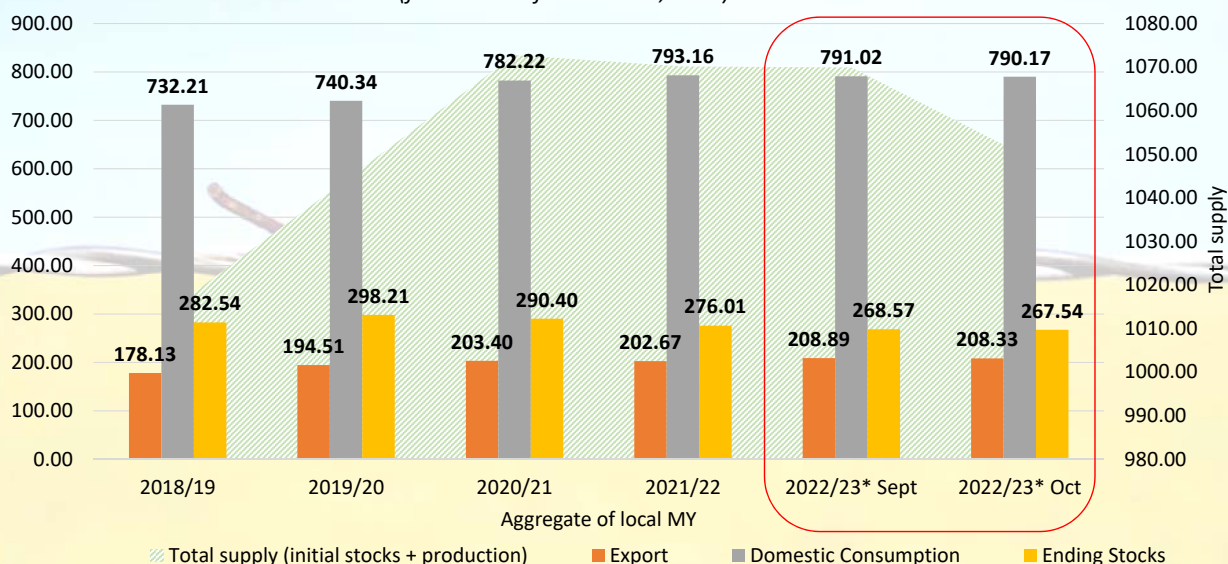
### WORLD EXPORT-IMPORT WHEAT DYNAMICS (forecast as of October 12, 2022)

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



Source: based on the data of the USDA

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



Source: based on the data of the USDA

## WORLD GRAIN PRICES, USD/t

	Stock/ month	Country of origin	Terms of delivery	Oct 21	Oct 14	Oct 7	Sep 30	week. change, USD/t %	
The futures market									
Wheat	CBOT, Dec.	USA	EXW	312.5	315.8	324.4	338.6	-3.3	-1.0%
Wheat	CBOT, Oct.	Black Sea	FOB	325.5	327.5	327.0	316.5	-2.0	-0.6%
Milling wheat	Euronext, Dec.	France	CPT Rouen	334.7	341.4	343.1	347.2	-6.7	-2.0%
Wheat	LIFFE, Nov.	EU	EXW	300.4	312.1	317.7	318.3	-11.7	-3.7%
Wheat	BCA, Nov.	Argentina	EXW	358.0	341.0	350.0	327.0	17.0	5.0%
Corn yellow	CBOT, Dec.	United States	EXW	269.0	271.5	269.0	266.7	-2.1	-0.8%
Corn	Euronext, Nov.	France	FOB	327.2	331.2	331.8	331.9	-4.0	-1.2%
Corn hard	BCA, Oct.	Argentina	EXW	253.0	252.0	248.0	245.0	1.0	-5.4%
Cash market									
Wheat SRW	Oct.	USA	CPT Mex.	345.3	353.9	356.1	368.0	-8.6	-2.4%
Wheat hard	Oct.	Argentina	FOB	431.0	421.0	420.0	412.0	10.0	2.4%
WheatFCW1	Oct.	France	FOB	337.0	349.0	348.0	350.0	-12.0	-3.4%
Corn yellow	Oct.	USA	CPT Mex.	354.0	357.0	355.6	326.2	-3.0	-0.8%
Corn	Oct.	Argentina	FOB	334.0	344.0	-	-	-10.0	-2.9%
Fodder barley	Oct.	France	FOB	299.0	309.8	314.7	305.1	-10.8	3.5%

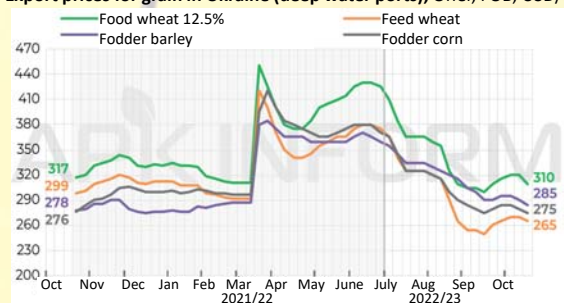
### EXPORT PRICES FOR GRAIN IN UKRAINE (DEEP WATER PORTS) as of October 21, 2022. Offer, FOB, USD/t

	Min	+/- to previous month	Max	+/- to previous month	Average	+/- to previous month
Food wheat 12.5%	305	-10	325	-5	310	-10
Food wheat 11.5%	300	-10	320	-5	305	-10
Feed wheat	260	-	275	-5	265	-5
Fodder corn	275	-5	295	-5	285	-5
Fodder barley	270	-5	285	-5	275	-5

## Dynamics of food wheat prices, USD/t



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



## REBUILDING UKRAINIAN AGRICULTURE

### OBJECTIVES FOR RECOVERY PLAN



#### Resilience

Provide economic, social and environmental resilience in the marathon to victory



#### Recovery

Find efficient solutions for the soonest recovery of the crucial economic and social processes, and natural ecosystems



#### Modernization and growth

Develop a modernization plan to ensure expedited sustainable economic growth and wellbeing of the people

### KEY GUIDING PRINCIPLES



**Start now,  
ramp up  
gradually**



**Grow prosperity  
in equitable way**



**Integrate into EU**



**Build back better  
(for the future)**



**Enable private  
investment &  
entrepreneurship**

### ESSENTIAL PRECONDITION

- Demining
- Restoration of critical infrastructure (road, bridges, energy system)
- Ensuring of a sufficient level of exports (extension of the "Grain initiative", lifting the blockade and development of the rest of Black seaports, creation of alternative export routes, etc.)
- Reconstruction of reclamation infrastructure
- Building new elevators

#### GOALS OF POST-WAR AGRICULTURAL POLICY:

achieving energy independence through the development of bioenergy production

organizing rebuilding around the principle of a zero-carbon future with minimal reliance on fossil fuels

transition from the raw-material-model of agricultural export to the export of goods with higher added value

development of seed production

development of the agricultural insurance system

reduction of import dependence in vegetable, fruits and barriers

forming meat and dairy independence

return of agricultural land to the economic circulation

land market development



Thank you!

Questions?