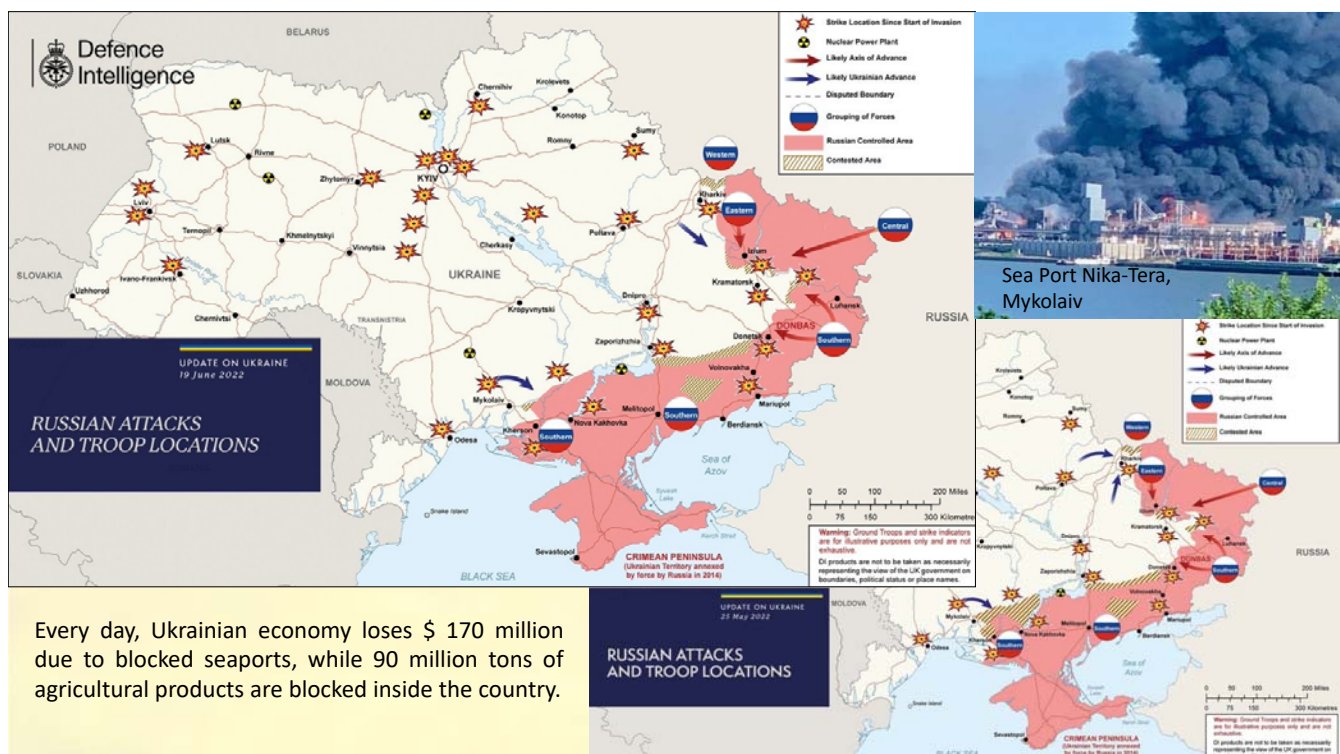


# Agricultural production, trade and stocks in the context of Russia's military invasion of Ukraine (updates)

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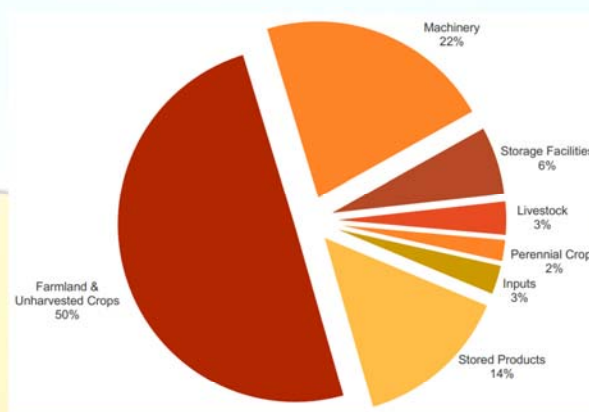
Every day, Ukrainian economy loses \$ 170 million due to blocked seaports, while 90 million tons of agricultural products are blocked inside the country.

**LOSSES FROM THE WAR IN UKRAINIAN AGRICULTURE as of 8th of June, 2022**  
(Indirect assessment of damage)

DAMAGES VALUE BY CATEGORY

| Category                            | Total Value (million \$) |
|-------------------------------------|--------------------------|
| Farmland & Unharvested Winter Crops | 2,135                    |
| Machinery                           | 926.1                    |
| Storage Facilities                  | 272.4                    |
| Livestock                           | 136.4                    |
| Perennial Crops                     | 89.1                     |
| Inputs (e.g., fertilizers, fuel)    | 119.6                    |
| Stored Products                     | 613.0                    |
| <b>Total</b>                        | <b>4292.3</b>            |

DAMAGES STRUCTURE BY CATEGORY



The total damage to Ukraine's agro-industrial complex as a result of Russia's military invasion has already reached \$ 4.3 billion.

Source: Kyiv School of Economics

| Infrastructure facilities                      | Number of items                   | Total damages, \$ mln |
|--|-----------------------------------|-----------------------|
| Residential buildings, mln sq. meters          | 44.8                              | 39 379                |
| Roads, thousand km                             | 23.9                              | 30 034                |
| Industrial enterprises, factories, units       | 256                               | 11 499                |
| Civilian airports, units                       | 11                                | 6 817                 |
| Railway stations and rolling stock             | 6.3 thousand railways / 41 bridge | 2 672                 |
| Healthcare institutions**                      | 656                               | 1 147                 |
| Bridges and bridge crossings                   | 304                               | 1 692                 |
| Cars, thousand units                           | 104.9                             | 968                   |
| Institutions of secondary and higher education | 1 177                             | 1 621                 |
| Land fund, thousand hectares                   | 4.7                               | 1 127                 |
| Administration buildings**                     | 111                               | 607                   |
| Kindergartens                                  | 668                               | 576                   |
| Religious buildings                            | 141                               | 81                    |
| Ports and port infrastructure                  | 4                                 | 471                   |
| Military airfields                             | 12                                | 468                   |
| Cultural facilities                            | 203                               | 270                   |
| Shopping malls**                               | 20                                | 345                   |
| An-225 Mriya aircraft                          | 1                                 | 300                   |
| Storage infrastructure                         | 198                               | 323                   |
| Oil depots                                     | 28                                | 227                   |
| Retail   | 2 910                             | 1 690                 |
| Other  | -                                 | 1 641                 |

**Losses of Ukraine's economy**

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

AS OF 08.06.2022

The analysis of the project  
"Russia will pay" – damaged.in.ua

TOTAL

**\$103.9**

billion

Total direct, indirect and one-time losses  
**\$564-600 billion\***



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



The sowing campaign of spring crops in Ukraine is over

Sown areas under spring wheat in 2022, thousand hectares



Source: \*Ukrainian Grain Association

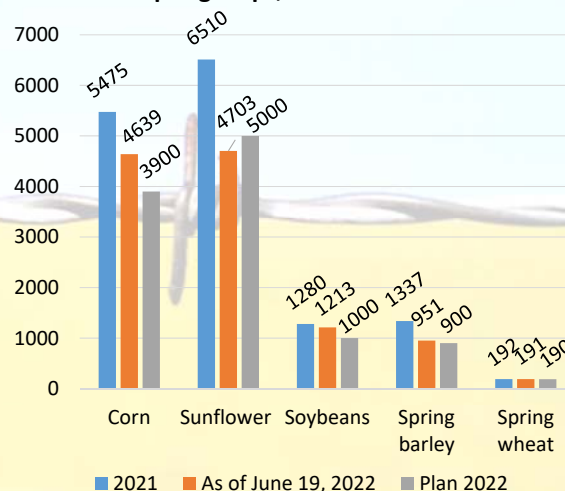
Ukraine has lost a quarter of its arable land (81.5 mln acres) since the Russian invasion, notably in the south and east.

In areas of hostilities up to 10-15% of fields are contaminated with remnants of shells and mines, there are fields blocked by mines.

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 |              |
| <b>Total</b>                      | <b>16916.3</b>          | <b>13431.2</b>      | <b>79.4%</b> |
| <b>Spring cereals and legumes</b> | <b>7457.1</b>           | <b>6106.3</b>       | <b>81.8%</b> |
| including:                        |                         |                     |              |
| • spring wheat                    | 192.1                   | 191.1               | 99.4%        |
| • spring barley                   | 1337.0                  | 951.4               | 71.2%        |
| • spring rapeseed                 | 33.2                    | 34.1                | 102.7%       |
| • oats                            | 177.9                   | 159.3               | 89.5%        |
| • peas                            | 242.1                   | 131.0               | 54.1%        |
| • corn                            | 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%        |

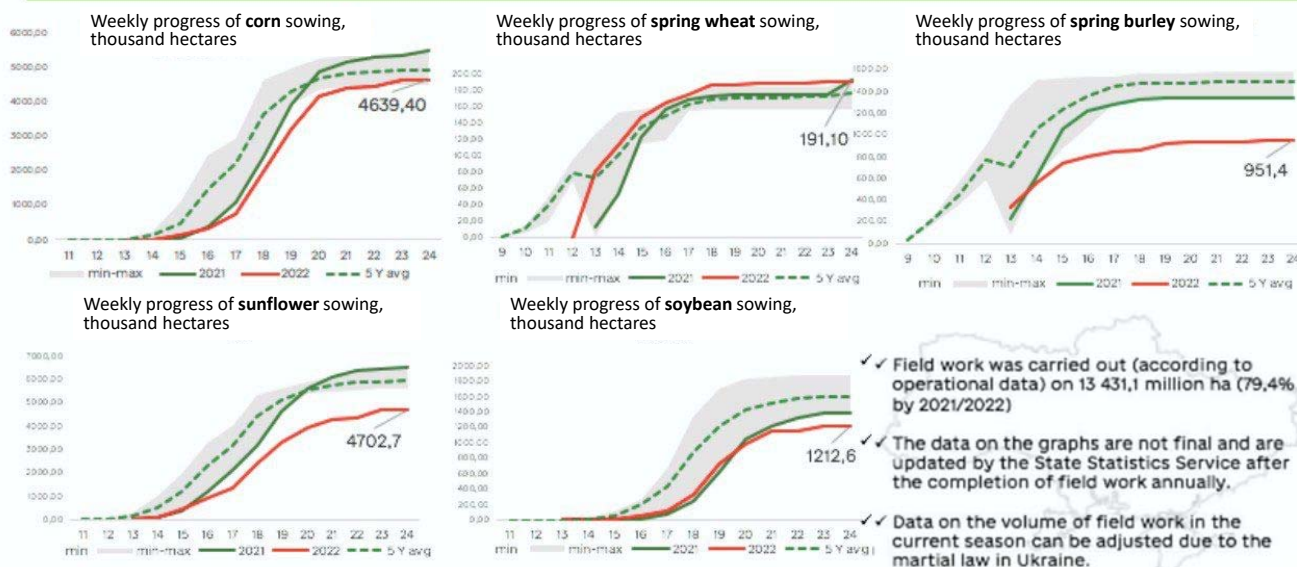
Spring crops, thousand hectares



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



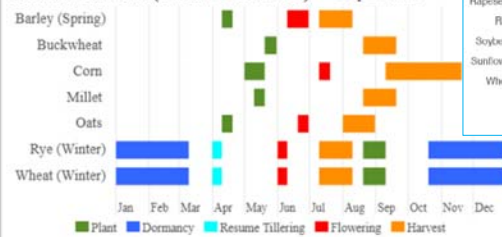
## Progress of field work / Spring crops planting 2022/2023



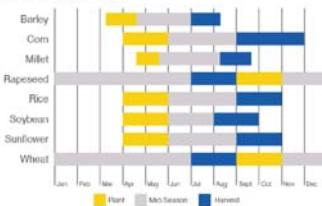
### Ukraine: Central-West (Western Forest-Steppe)\* – Crop Calendar



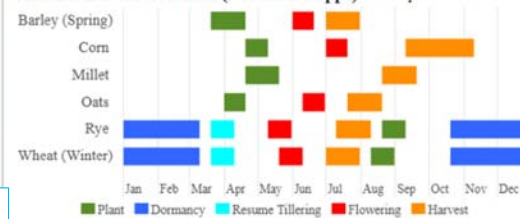
### Ukraine: Northeast (Eastern Forest Zone)\* – Crop Calendar



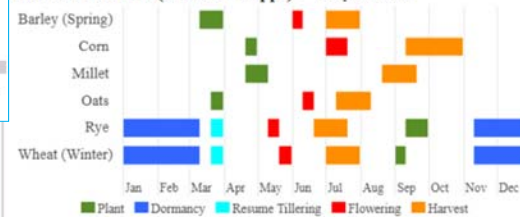
### Ukraine Crop Calendar



### Ukraine: Eastern-Southern (Northern Steppe)\* – Crop Calendar



### Ukraine: Southern (Southern Steppe)\* – Crop Calendar



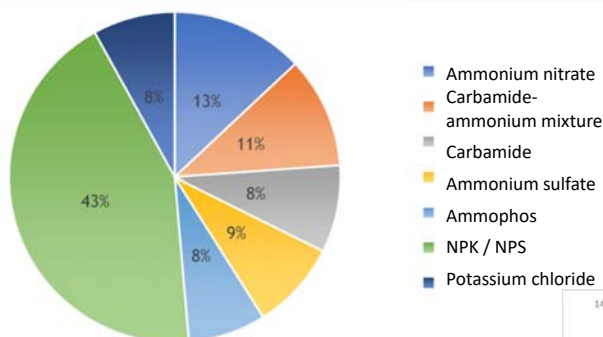
As of June 17, 2022, agrarians of Odesa region were the first in Ukraine to harvest summer fields. Harvesting of winter barley has started in Izmail district. The first mowing on the area of 7 thousand hectares yielded 14.7 thousand tons of grain of the new harvest.

### Provision of agricultural enterprises with plant protection products in 2022 as of June 16, 2022

| Region          | The need for plant protection products |                      | Received in farms of plant protection products |                  | Including herbicides |                  |
|-----------------|--|----------------------|--|------------------|----------------------|------------------|
|                 | Total                                  | Including herbicides | Total  | in % to the need | Total                | in % to the need |
| Vinnitsya       | 2496.5                                 | 1576.6               | 2496.5   | 100              | 1576.6               | 100              |
| Volyn           | 890                                    | 413                  | 867.5  | 97               | 407.5                | 99               |
| Dnipropetrovsk  | 1 819.2                                | 1246.8               | 1 787.8  | 98               | 1 211.4              | 97               |
| Donetsk         | 808                                    | 515                  | 229  | 28               | 119                  | 23               |
| Zhytomyr        | 1227                                   | 850                  | 1221   | 99               | 850                  | 100              |
| Zakarpattia     | 276                                    | 120                  | 251  | 91               | 120                  | 100              |
| Zaporizhzhya    | 1251                                   | 680                  | 296  | 24               | 158                  | 23               |
| Ivano-Frankivsk | 498                                    | 243                  | 397  | 80               | 212                  | 87               |
| Kyiv            | 1553                                   | 1100                 | 796  | 52               | 554                  | 51               |
| Kirovohrad      | 1531                                   | 1090                 | 1468.4   | 96               | 1090.4               | 100              |
| Luhansk         | 535                                    | 381                  | 323  | 60               | 223                  | 59               |
| Lviv            | 853                                    | 455                  | 863  | 101              | 573                  | 126              |
| Mikolayiv       | 1010                                   | 483                  | 625  | 62               | 342                  | 71               |
| Odesa           | 1481                                   | 597                  | 1559   | 100              | 556                  | 93               |
| Poltava         | 2674                                   | 2194                 | 2638   | 99               | 2131                 | 97               |
| Rivne           | 731                                    | 501                  | 235  | 32               | 145                  | 29               |
| Sumy            | 2080                                   | 1660                 | 1768   | 85               | 1412                 | 85               |
| Ternopil        | 1858                                   | 1096                 | 1460   | 79               | 619                  | 56               |
| Kharkiv         | 1636                                   | 1250                 | 339  | 21               | 292                  | 23               |
| Kherson         | 1043                                   | 342                  | 384  | 37               | 117                  | 34               |
| Khmelnyskiy     | 2249                                   | 1393                 | 2291   | 102              | 1430                 | 103              |
| Cherkasy        | 1770                                   | 1360                 | 1563   | 88               | 1201                 | 88               |
| Chernivtsi      | 479                                    | 140                  | 384  | 80               | 117                  | 84               |
| Chernihiv       | 1225                                   | 1027                 | 1187   | 97               | 987                  | 96               |
| <b>Total</b>    | <b>31 973</b>                          | <b>20 713</b>        | <b>25 429</b>                                  | <b>80</b>        | <b>16 443</b>        | <b>79</b>        |

Source: The Ministry of Agrarian Policy and Food of Ukraine

### The structure of imports of mineral fertilizers to Ukraine in 2021

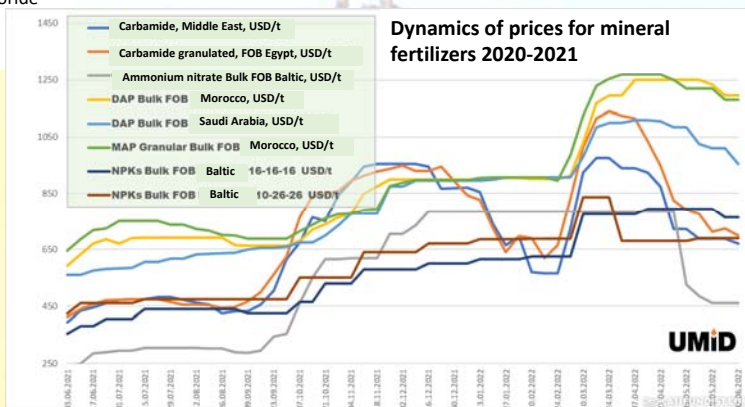


### Plant protection products were imported to Ukraine from:

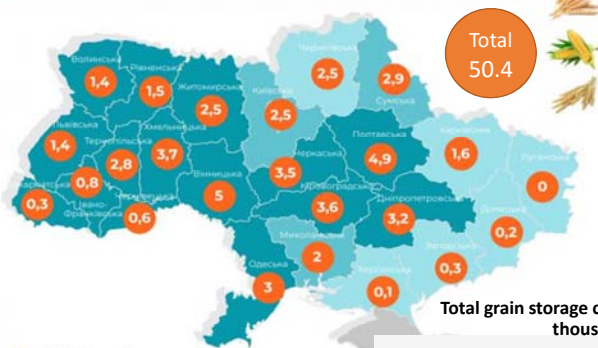
- EU countries - 49%;
- China - 23%;
- Belarus - 3%;
- Great Britain - 3%;
- Zambia - 3%;
- Israel - 2%;
- India - 2%;
- USA - 2%;
- Kazakhstan - 1%;
- other countries - 12%.

Own production covers only a third of the Ukrainian agricultural sector's need for fertilizers.

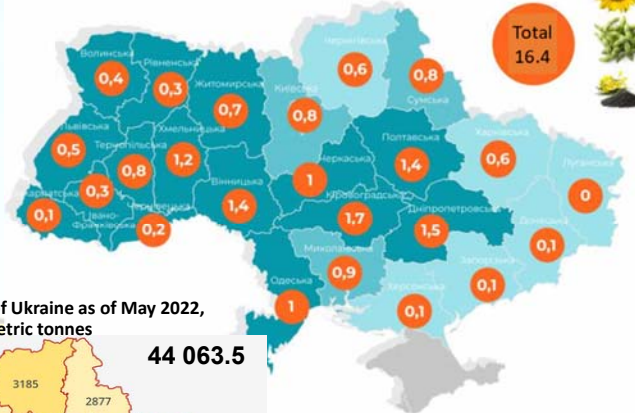
### Dynamics of prices for mineral fertilizers 2020-2021



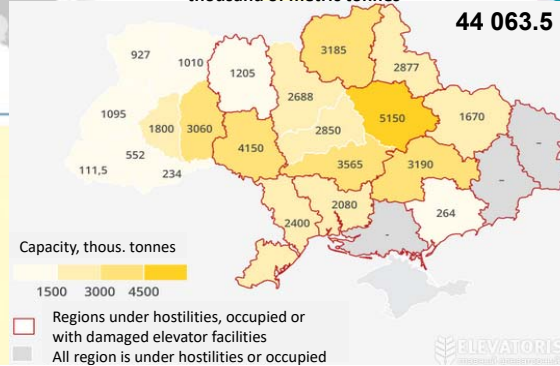
Forecast for the gross harvest of grain crops in 2022, million tonnes



Forecast for the gross harvest of oilseeds in 2022, million tonnes



Total grain storage capacity of Ukraine as of May 2022, thousand of metric tonnes



Ukrainian farmers can harvest grain crops in 2022 :

- Wheat - 18 million tonnes (2021 - 32.2 million tonnes);
- Corn - 25.7 million tonnes (2021 - 42.1 million tonnes);
- Barley - 5.2 million tonnes (2021 - 9.4 million tonnes)

Harvest expectations for oilseeds:

- Sunflower - 10.6 million tonnes (in 2021 - 16.4 million tonnes);
- Soybeans - 3.0 million tonnes (in 2021 - 3.5 million tonnes);
- Rapeseed - 2.7 million tonnes (in 2021 - 2.9 million tonnes).

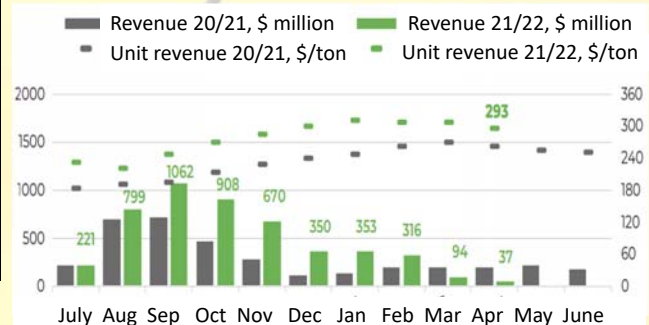
Export of cereals, legumes (with products of their processing) and flour as of June 20, 2022, thousand tonnes (data of State Customs Service of Ukraine)

|                                     | 2021/2022 MY |                     | 2020/2021 MY |                     |
|-------------------------------------|--------------|---------------------|--------------|---------------------|
|                                     | Total        | including: for June | Total        | including: for June |
| <b>Cereals and legumes, total</b>   | <b>47876</b> | <b>777</b>          | <b>43939</b> | <b>1747</b>         |
| • wheat                             | 18661        | 63                  | 16413        | 436                 |
| • barley                            | 5737         | 21                  | 4210         | 64                  |
| • rye                               | 161.5        | 0                   | 15.8         | 11.5                |
| • maize                             | 23006        | 689                 | 22596        | 1223                |
| Wheat flour                         | 68.3         | 0.9                 | 123.7        | 12.0                |
| Other flour                         | 1.4          | 0                   | 1.1          | 0                   |
| <b>Total flour</b>                  | <b>69.7</b>  | <b>0.9</b>          | <b>124.8</b> | <b>12.0</b>         |
| <b>Total export (grain + flour)</b> | <b>47969</b> | <b>778</b>          | <b>44105</b> | <b>1763</b>         |

Dynamics of grain exports from Ukraine, thousand tonnes



Dynamics of revenue from wheat exports from Ukraine



**Balance of supply and demand of grain and legumes in Ukraine (\*forecast as of June 10, 2022)**

|  | 2020/21         | 2021/22*        | 2022/23*        | Deviation , %     |                   |
|--|-----------------|-----------------|-----------------|-------------------|-------------------|
|  | thousand tonnes | thousand tonnes | thousand tonnes | 2021/22 - 2020/21 | 2022/23 - 2021/22 |
| Initial stocks                         | 4 866           | 5 861           | 17 054          | +20.4%            | in +2,9 times     |
| Sown area, thousand hectares           | 15 392          | 15 995          | 14 006          | +3.9%             | -12,4%            |
| Harvested area, thousand hectares      | 15 283          | 15 948          | 11 431          | +4.4%             | -28,3%            |
| Yield, tonnes / hectare                | 4.25            | 5.39            | 4.58            | +26.8%            | -15,0%            |
| Gross harvest                          | 64 933          | 86 010          | 52 397          | +32.5%            | -39,1%            |
| Import                                 | 208             | 128             | 173             | -38.8%            | +35,7%            |
| <b>Total supply</b>                    | <b>70 008</b>   | <b>91 999</b>   | <b>69 624</b>   | <b>+31.4%</b>     | <b>-24,3%</b>     |
| Domestic consumption:                  | 18 784          | 26 702          | 22 068          | +42.2%            | -17,4%            |
| food                                   | 3 490           | 3 591           | 3 496           | +2.9%             | -2,6%             |
| fodder                                 | 10 520          | 14 470          | 12 730          | +37.5%            | -12,0%            |
| seeds                                  | 2 224           | 1 928           | 2 084           | -13.3%            | +8,1%             |
| losses                                 | 1 525           | 5 842           | 3 016           | in +3,8 times     | -48,4%            |
| other (alcohol, malt, starch, etc.)    | 1 021           | 863             | 733             | -15,5%            | -15,1%            |
| Export                                 | 45 363          | 48 243          | 40 609          | +6,3%             | -15,8%            |
| <b>Total distribution (demand)</b>     | <b>64 147</b>   | <b>74 945</b>   | <b>62 677</b>   | <b>+16,8%</b>     | <b>-16,4%</b>     |
| Ending stocks                          | 5 861           | 17 054          | 6 947           | in +2,9 times     | -59,3%            |
| Ratio of ending stocks to distribution | 9%              | 23%             | 11%             |                   |                   |

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

**WHEAT: world production, trade and stocks, thousand tonnes**

|                      | 2020/21        | 2021/22        | 2022/23*       | 2022/23 to 2021/22 |
|----------------------|----------------|----------------|----------------|--------------------|
| <b>Production</b>    | <b>775 718</b> | <b>779 287</b> | <b>774 828</b> | <b>-0,6%</b>       |
| TOP-5                |                |                |                |                    |
| EU                   | 126 694        | 138 418        | 136 500        | -1,4%              |
| China                | 134 250        | 136 946        | 135 000        | -1,4%              |
| India                | 107 860        | 109 586        | 108 500        | -1,0%              |
| Russia               | 85 352         | 75 158         | 80 000         | +6,4%              |
| USA                  | 49 751         | 44 790         | 47 050         | +5,0%              |
| Ukraine              | 25 420         | 33 007         | 21 500         | -34,9%             |
| <b>Import</b>        | <b>195 367</b> | <b>196 494</b> | <b>201 261</b> | <b>+2,4%</b>       |
| TOP-5                |                |                |                |                    |
| Indonesia            | 10 649         | 11 000         | 11 200         | +1,8%              |
| Egypt                | 12 149         | 12 000         | 11 000         | -8,3%              |
| Turkey               | 8 081          | 9 000          | 10 000         | +11,1%             |
| China                | 10 618         | 9 700          | 9 500          | -2,1%              |
| Algeria              | 7 680          | 7 800          | 7 900          | +1,3%              |
| Russia               | 400            | 300            | 300            | =                  |
| Ukraine              | 132            | 100            | 100            | =                  |
| <b>Export</b>        | <b>203 340</b> | <b>199 892</b> | <b>204 891</b> | <b>+2,5%</b>       |
| TOP-5                |                |                |                |                    |
| Russia               | 39 100         | 33 000         | 39 000         | +18,2%             |
| EU                   | 29 740         | 31 000         | 36 000         | +16,1%             |
| Australia            | 23 846         | 27 500         | 24 000         | -12,7%             |
| Canada               | 26 429         | 15 500         | 24 000         | +54,8%             |
| USA                  | 26 985         | 21 909         | 21 092         | -3,7%              |
| Ukraine              | 16 851         | 19 000         | 10 000         | -47,4%             |
| <b>Ending stocks</b> | <b>291 219</b> | <b>279 717</b> | <b>267 024</b> | <b>-4,5%</b>       |
| TOP-5                |                |                |                |                    |
| China                | 144 120        | 141 916        | 141 516        | -0,3%              |
| USA                  | 23 001         | 17 824         | 16 838         | -5,5%              |
| India                | 27 800         | 21 350         | 16 375         | -23,3%             |
| Russia               | 11 380         | 12 088         | 11 138         | -7,9%              |
| EU                   | 10 693         | 13 611         | 10 611         | -22,0%             |
| Ukraine              | 1 505          | 5 612          | 6 012          | +7,1%              |

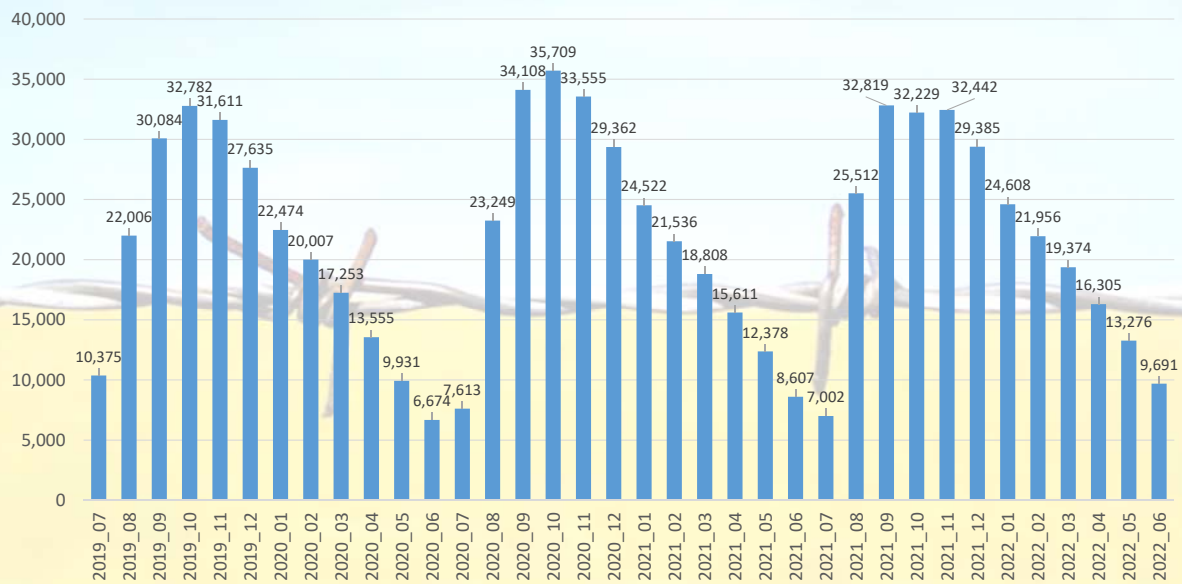
**SUNFLOWER OIL: world production, trade and stocks, thousand tonnes**

|                      | 2020/21       | 2021/22       | 2022/23*      | 2022/23 to 2021/22 |
|----------------------|---------------|---------------|---------------|--------------------|
| <b>Production</b>    | <b>19 044</b> | <b>19 913</b> | <b>19 136</b> | <b>-3,9%</b>       |
| TOP-5                |               |               |               |                    |
| Russia               | 5 121         | 5 823         | 5 576         | -4,2%              |
| Ukraine              | 5 913         | 5 160         | 4 193         | -18,7%             |
| EU                   | 3 460         | 4 034         | 4 183         | +3,7%              |
| Argentina            | 1 350         | 1 360         | 1 440         | +5,9%              |
| Turkey               | 1 044         | 1 010         | 1 119         | +10,8%             |
| <b>Import</b>        | <b>9 651</b>  | <b>8 928</b>  | <b>9 105</b>  | <b>+2,0%</b>       |
| TOP-5                |               |               |               |                    |
| India                | 1 958         | 1 900         | 1 800         | -5,3%              |
| EU                   | 1 601         | 1 550         | 1 600         | +3,2%              |
| China                | 1 640         | 1 500         | 1 500         | =                  |
| Turkey               | 778           | 800           | 750           | -6,3%              |
| Iran                 | 830           | 575           | 700           | +21,7%             |
| Russia               | 1             | 1             | 1             | =                  |
| <b>Export</b>        | <b>11 294</b> | <b>10 209</b> | <b>10 471</b> | <b>+2,6%</b>       |
| TOP-5                |               |               |               |                    |
| Ukraine              | 5 273         | 4 350         | 3 800         | -12,6%             |
| Russia               | 3 246         | 3 200         | 3 600         | +12,5%             |
| Argentina            | 828           | 750           | 850           | +13,3%             |
| EU                   | 683           | 675           | 800           | +18,5%             |
| Turkey               | 639           | 625           | 650           | +4,0%              |
| <b>Ending stocks</b> | <b>1 953</b>  | <b>2 331</b>  | <b>1 953</b>  | <b>-16,2%</b>      |
| TOP-5                |               |               |               |                    |
| Russia               | 129           | 603           | 355           | -41,1%             |
| EU                   | 176           | 197           | 292           | +48,2%             |
| Argentina            | 231           | 259           | 262           | +1,2%              |
| Ukraine              | 269           | 414           | 232           | -44,0%             |
| Turkey               | 155           | 160           | 189           | +18,1%             |

Source: USDA (as of May 2022)



Dynamics of grain and pulses stocks in Russia as of the 1st day of the month, thsd tonnes



Source: Federal State Statistics Service of the Russian Federation

| District                | Product           |              |              |              |                 |
|-------------------------|-------------------|--------------|--------------|--------------|-----------------|
|                         | Grains and pulses | Wheat        | Corn         | Oilseeds     | Sunflower seeds |
| Central FD              | 2 754             | 1 488        | 695          | 547          | 243             |
| Volga FD                | 1 908             | 1 011        | 197          | 175          | 104             |
| Southern FD             | 1 587             | 1 038        | 254          | 327          | 239             |
| Siberian FD             | 1 436             | 735          | 29           | 207          | 81              |
| Ural FD                 | 740               | 386          | 22           | 39           | 12              |
| North Caucasian FD      | 603               | 378          | 126          | 31           | 22              |
| Northwestern FD         | 424               | 252          | 28           | 21           | 0               |
| Far Eastern FD          | 238               | 51           | 130          | 132          | 0               |
| <b>Russian FD Total</b> | <b>9 691</b>      | <b>5 339</b> | <b>1 482</b> | <b>1 479</b> | <b>702</b>      |

RUSSIA: stocks of agricultural products by federal districts as of the June 1, 2022, thousand tonnes

Source: Federal State Statistics Service of the Russian Federation





## 25<sup>th</sup> SPIEF (June 15-18, 2022)

- ✓ «European sanctions are the suicide of the European economy»
- ✓ «Not an import substitution, but import independence»



- ✓ «The proposed scheme of the administrative-territorial division of the territory after the completion of the Russian special operation for the liberation of Ukraine (for a transitional period of 3-5 years)»

## Geography of participants of SPIEF - 2022



|             |            |                           |
|-------------|------------|---------------------------|
| Abkhazia    | Cameroon   | Saudi Arabia              |
| Azerbaijan  | Qatar      | Syria                     |
| Afghanistan | Kenya      | Thailand                  |
| Bangladesh  | Kyrgyzstan | Turkey                    |
| Brazil      | Colombia   | Uzbekistan                |
| Venezuela   | Congo      | Uruguay                   |
| Ghana       | Kuwait     | Central African Republic  |
| China       | Mexico     | Sri Lanka                 |
| Egypt       | Myanmar    | Ethiopia                  |
| India       | Namibia    | Mali                      |
| Iran        | Nigeria    | Donetsk People's Republic |
| Italy       | UAE        | Luhansk People's Republic |
| Yemen       | Palestine  | South Ossetia             |
| Kazakhstan  | Belarus    |                           |

- ✓ Signed agreements for 5.6 trillion rubles (\$100 billions)



## Latest steps to resolve the economic situation in Ukraine:

- ✓ Most of the European countries support granting Ukraine candidate status as a member of the European Union
- ✓ A memorandum was signed between Ukraine and Poland on simplifying the export of Ukrainian grain in terms of phytosanitary and veterinary control of transit cargoes of grain from Ukraine
- ✓ Ukraine is ready to export grain by sea under the condition of creating a sea corridor by warships of civilized countries, which Ukraine trusts
- ✓ Ukraine is already preparing additional storage facilities (mobile elevator cans and plastic hoses/bags are imported to have potential storage equipment in reserve)
- ✓ The United States intends to build granaries in Poland, on the border with Ukraine, to facilitate the export of Ukrainian grain to Europe by rail
- ✓ EU governments are considering providing Ukraine with temporary storage facilities for grain, which should significantly help preserve the harvest and ensure future grain supplies to world markets
- ✓ From the beginning of the war until June, 15 ships were loaded with Ukrainian grain in the Romanian port of Constanta. In total, 242 thousand tonnes of agricultural products were transhipped, which corresponds to 1.21% of last year's 20 million tons of grain, which Ukraine now wants to export
- ✓ A ship carrying 18 thousand tonnes of Ukrainian corn arrived on June 13, 2022 at a port in northwestern Spain, using a new maritime route through the Baltic Sea. Corn have left western Ukraine in trucks for Poland and Romania and then was loaded on to a ship at Poland's Baltic Sea port of Swinoujscie
- ✓ Hungary has offered its territory as a possible route for Ukrainian grain exports

Thank you!

Questions?