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## **Trends in Ukraine's wheat production and exports**

**Abstract.** *The article investigates the main trends in Ukraine's wheat production and exports. The authors point out that wheat production plays an important role in the Ukrainian economy, both as regards the country's food security and for the development of its export potential. Ukraine is one of the world's leading producers and exporters of wheat. The authors analyze the regional structure of wheat production and identify how it can be affected as a result of the war in Ukraine, highlighting the main threats posed by the present difficult political and economic situation, which may negatively affect wheat production. They list measures already taken by the country's authorities to support agricultural producers and propose way in which Ukraine can maintain its status as a leading exporter of grain crops.*

**Keywords:** *wheat production, grain export, export potential, food security, agriculture*

### **1. Formulation of the problem**

Wheat production in Ukraine is one of the promising areas of production, given the high level of natural and climatic potential, along with growing demand for these products on the international market. Ukraine is one of the largest producers and exporters of this type of grain in the world.

In February 24, 2022 the country launched a full-scale military invasion of Russian troops. Besides the fact that the war is causing significant damage to the entire Ukrainian economy, it will have consequences for world trade. Among the most important problems that have arisen are the risks of wheat production and exports. Given the difficult political and economic situation in the country, it is advisable to study the current state, threats to the cultivation of wheat by Ukrainian farmers, opportunities for further production and export of wheat.

## 2. Literature review

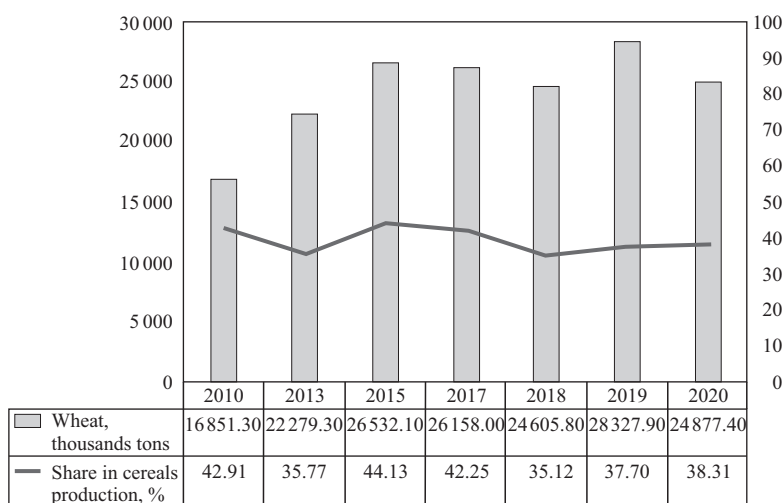
Problems and prospects of the grain market in Ukraine are widely studied, in particular, some works highlight the prospects for regional development of grain production and processing (Ishchuk & Liahovska, 2020, pp. 5-13), potential opportunities for grain production in Ukraine (Meselyak-Veselyak, 2018, pp. 5-14), Ukraine's place in world grain trade (Zrailo & Hynkevych, 2020, pp. 328-341), the role of agriculture in ensuring global food security (Vdovenko, 2021, pp. 3-8) and others.

However, given the sharp negative changes in the economic development of the state, the issue of wheat production and exports remains relevant. And the problems associated with the chosen topic require flexible response and dynamic solutions.

## 3. Main results of the study

The development of agriculture plays a key role in Ukraine's economy: the share of agriculture was about 10% of Ukraine's GDP, and agricultural products account for about 45% of exports. In particular, in the commodity structure of exports the most significant share is occupied by sunflower oil (10.81% – in 2019, 9.38% – in 2020), corn (9.91 – in 2019, 8.65% – in 2020) and wheat (7.31 – in 2019, 7.43% – in 2020). In recent years, there has been a positive trend indicated

Chart 1. Wheat production in Ukraine



Source: based on data from SSSU (2020).

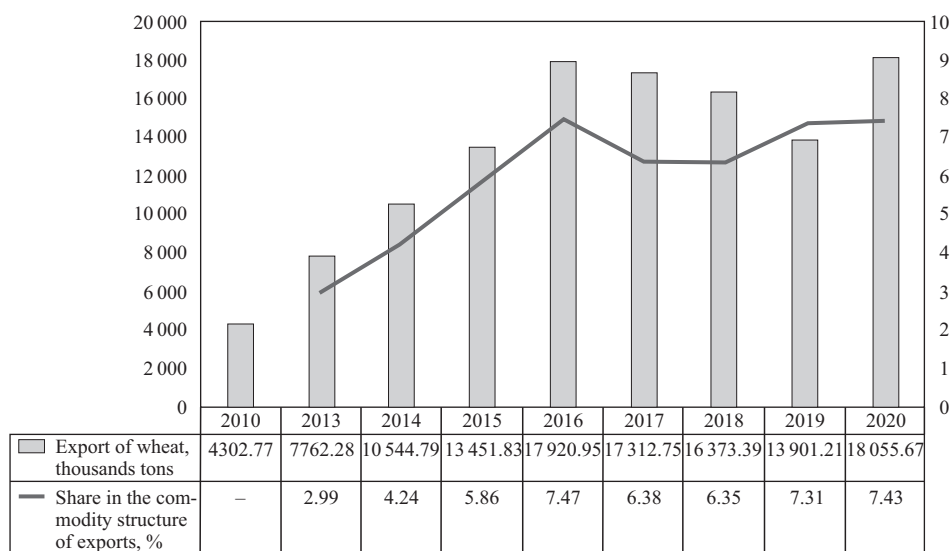
in the cultivation of these crops, due to favorable climatic conditions, soil fertility in most parts of the country, along with growing demand for food in the world.

Wheat is one of the most widely grown cereals. In particular, wheat production has been less than a third of the crop production in Ukraine and in recent years the positive trends in the growth of its production has been indicated (from 2010 to 2020 the increase was 47.63%) (Chart 1). In 2020, Ukraine ranked 8th among wheat-producing countries. Such kind of strategic food industry product (as raw materials for food production and animal feed) has been produced by Ukraine in volumes exceeding domestic needs and opportunities for processing (lack of production capacity, markets, technical and technological support, etc.), so it has been exported actively.

Thus, wheat exports in 2020 reached about 70% of its production (against 25% in 2010). The share of wheat in the goods structure of Ukraine's exports increased to 7%, and the volume of exports – has increased 4.20 times over the past 10 years (Chart 2).

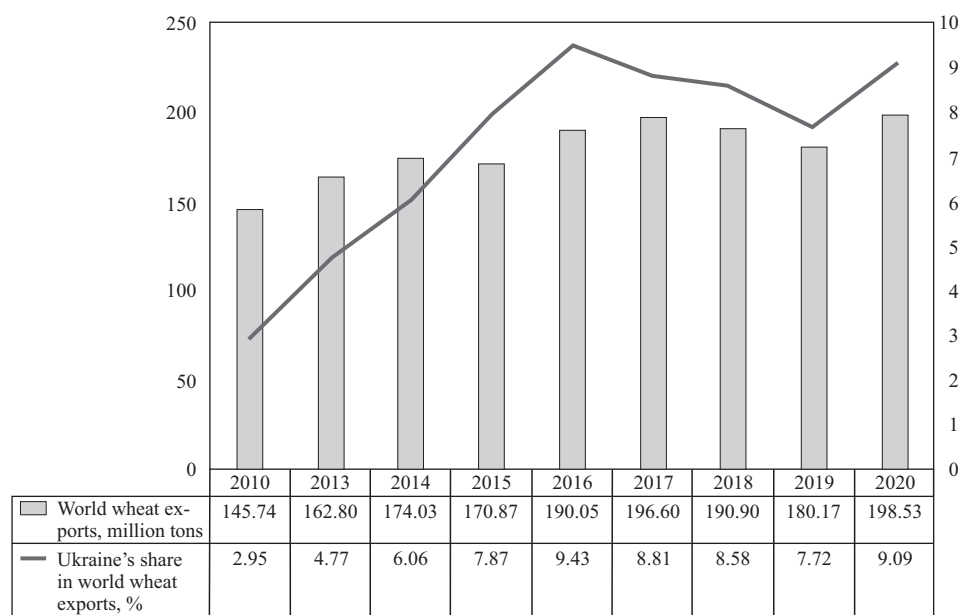
The trends were facilitated by the stable international grain markets growth, demand for this product on the world market, as well as well-established logistics, trade relations and more. The main importers of Ukrainian wheat were Egypt (16.99% of wheat exports in 2020), Indonesia (15.11%) and Bangladesh (8.20%). As a result, in recent years (2014-2020) the share of Ukrainian exports in the world wheat market has increased significantly (Chart 3). In 2020, Ukraine became one of the five largest exporters of wheat (after Russia, the United States, Canada and France).

Chart 2. Export of wheat from Ukraine



Source: State Customs Service of Ukraine (2020).

Chart 3. Ukraine's share in world wheat exports



Source: FAOSTAT (2020).

Given the current political and economic situation, Ukraine as well as whole world faced the numerous threats related to both domestic and global demand for wheat.

The first threat burns to the physical inability to provide agricultural work due to hostilities and minefields. Therefore, it is advisable to pay attention to the regional structure of wheat production in Ukraine (Table 1). Thus, the regions where hostilities are already underway (marked in gray) produced about half of the total amount of wheat in previous years.

Secondly, there are growing problems with the supply of imported products (fixed assets, fertilizers, fuel), which are necessary for the work of agricultural producers. In particular, there was a shortage of diesel fuel for machinery. Ukraine is one third dependent on imported fuel. In 2020, Russia's share in diesel imports was about 30%, and Belarus – 42%. The deficit in the Ukrainian market has led to a significant increase in the cost of fuel. As a result, the price of diesel has risen by about 35-65% since the beginning of the war. In addition to diesel fuel, Ukraine is dependent on wheat fertilizers, some of which were imported from Belarus and Russia.

Third, the logistics of wheat exports are complicated, in particular, access to sea routes. Therefore, it is advisable to diversify markets in order to ensure the delivery of wheat to importers, for example, to increase supplies to EU countries.

Table 1. Regional structure of wheat produced in Ukraine (%)

Region	2000	2010	2013	2015	2017	2018	2019	2020
Ukraine	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Vinnitsia	7.84	7.48	6.83	6.82	6.64	6.80	6.46	5.41
Volyn	2.87	1.96	2.14	2.46	2.65	2.73	2.51	2.92
Dnipropetrovsk	3.41	7.97	7.94	7.53	6.77	6.30	6.80	7.88
Donetsk	1.52	7.21	6.22	3.91	4.78	3.68	4.77	5.57
Zhytomyr	3.31	1.76	1.47	1.98	2.12	2.47	2.49	2.47
Transcarpathian	0.42	0.33	0.51	0.43	0.36	0.34	0.33	0.34
Zaporizhzhia	5.18	7.50	6.65	7.46	7.95	6.70	8.44	8.34
Ivano-Frankivsk	1.19	0.72	0.98	1.17	1.11	1.31	0.95	1.13
Kyiv	7.16	3.54	3.71	3.70	2.80	3.61	3.54	3.12
Kirovohrad	4.87	5.25	5.00	4.27	3.45	4.40	4.99	4.59
Luhansk	0.55	3.34	3.17	2.42	3.61	3.24	3.56	4.16
Lviv	2.93	2.10	2.64	3.15	2.99	3.15	3.05	3.15
Mykolaiv	5.00	6.10	5.42	5.50	5.47	5.52	5.62	4.65
Odesa	9.06	7.82	7.34	6.89	8.73	9.57	7.10	3.93
Poltava	2.64	4.04	5.16	4.87	3.70	4.11	3.89	4.13
Rivne	2.49	1.92	1.54	1.70	1.78	1.89	1.78	1.95
Sumy	3.23	3.18	3.88	4.15	3.93	3.69	3.16	3.72
Ternopil	3.95	3.52	3.11	3.69	4.21	4.21	4.14	4.09
Kharkiv	3.83	2.58	9.10	8.29	8.55	7.25	8.05	10.93
Kherson	6.77	5.39	3.93	6.64	6.32	6.04	5.79	6.30
Khmelnysky	6.54	3.78	3.72	4.51	5.03	5.05	5.08	4.31
Cherkasy	5.71	4.99	4.77	4.85	2.81	3.99	3.82	3.21
Chernivtsi	1.11	0.63	0.74	0.77	0.77	0.74	0.72	0.59
Chernihiv	2.31	2.29	2.46	2.86	3.45	3.21	2.97	3.09

Source: based on data from SSSU (2020).

In general, Ukrainian farmers have faced a shortage of labor (some workers have become internally displaced persons or refugees, some workers can not participate in production due to military service) and financial (difficulty obtaining credit due to instability of the banking system, foreign exchange risks, rising prices for logistics and other) resources. The outflow of investment resources, which were aimed at innovation, technological development of production, in investment projects with high added value.

Given the current political and economic situation in Ukraine, with the stabilization of the economy in the near future, domestic farmers are able to fully

meet domestic demand for wheat and partially restore its exports. However, the country's export potential in this direction will decrease significantly. With the escalation of Russia's invasion in Ukraine, increasing global restrictions on trade cooperation with Russia, the world market may lose about 25% of wheat supplies.

To avoid the food crisis in Ukraine, the Ukrainian authorities have taken a number of measures, including simplifying the operation of agricultural enterprises during martial law. The government has also proposed a program of financial support for farmers during the martial law to implement a sowing campaign, which provides compensation for interest rates on loans, the loan amount can reach up to UAH 50 million and be issued for 6 months.

Even before the war, Ukrainian farmers said they planned to reduce fertilizer application by 8-10% due to their shortage on the world market. As the import of fertilizers has now become even more problematic, even greater restrictions on their application should be expected. Accordingly, such actions can affect wheat yields. This problem will have the greatest impact on the performance of small agricultural enterprises, as they have lower stocks of fertilizers and, in general, a lower level of risk. Instead, the situation with large agricultural holdings is not critical.

At the same time, the problem of fuel shortages remains the most difficult. To reduce the price, the government abolished the excise tax on fuel and reduced the VAT rate from 20% to 7%. However, such actions will stabilize the situation temporarily.

Of course, during the war in Ukraine, the problem of providing food to the domestic market remains important. Therefore, as an important product for the food industry, wheat is included in the list of goods whose export permit will be issued by the Ministry of Economy (from now the export of wheat, corn, poultry, chicken eggs and oil is subject to licensing). The relevant resolution, which expands the list of licensing and quotas for exports and imports subject to licensing in 2022, was adopted by the Cabinet of Ministers of Ukraine on March 5, 2022. Anyway, Ukraine is losing its position in the world wheat market and the status of one of the largest grain-exporting countries.

These trends pose a high level of food security risk in Ukraine and can provoke a shortage of wheat (and wheat products) in many countries.

## **4. Conclusion**

Ukraine is one of the ten largest wheat-producing countries and 5 exporting countries, so it is natural that the war has not only destabilized the economic situation in Ukraine, but also has negative consequences for the world economy. However, despite the difficult political and economic situation in the country, it is

advisable to take measures to maintain Ukraine's status as a leading exporter of cereals. We have outlined the main ones:

- regional relocation of main productions to the regions controlled by Ukraine and those with the lowest risk of minefields. In particular, increase the area under wheat (as a strategic product) in the Western and Northern regions of Ukraine. Due to the fertility of the land and favorable climatic and natural conditions, it is possible to sow spring wheat in the spring;
- ensuring import supplies to the domestic market of fuel, machinery, spare parts and other materials needed for field work by agricultural producers;
- stimulating cooperation and integration (horizontal-vertical) of agricultural enterprises in order to strengthen financial security, as well as industrial producers in the processes of primary processing, procurement and sale of grain products;
- improving the logistics of wheat delivery to the world market in order to maintain the position of a reliable exporter, as well as to avoid losses in price and quality that have arisen in the process of violating the established logistics channels;
- intensification of activities in the direction of creating favorable institutional conditions for further development of powerful export-oriented industries;
- stimulating the activity of agro-industrial entities by providing them with organizational, technical and informational support in the direction of state support, credit programs and more.

The implementation of the outlined tasks will allow Ukrainian producers to maintain the level of food security in the country, as well as to restore their position on the world grain market in the postwar period.

In addition to the world's military support in the resistance against the Russian invasion and the protection of democratic and human values in Europe and the world, Ukraine needs support in the economic aspect, because an economically strong agricultural Ukraine is a guarantee of food independence of Europe and the world.

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## Trendy w produkcji i eksporcie pszenicy na Ukrainie

**Streszczenie.** Artykuł jest poświęcony analizie głównych tendencji w produkcji i eksporcie pszenicy na Ukrainie. Autorzy zwracają uwagę na kluczową rolę, jaką produkcja pszenicy odgrywa w krajowej gospodarce, zarówno jeśli chodzi o zapewnienie bezpieczeństwa żywnościowego, jak i rozwój krajowego potencjału eksportowego. Ukraina jest jednym z czołowych producentów i eksporterów pszenicy na świecie. Biorąc pod uwagę regionalną strukturę produkcji pszenicy, przedstawiono ewentualne straty, jakich można się spodziewać w tym sektorze w związku z działaniami wojennymi na terytorium Ukrainy. Autorzy wymieniają główne zagrożenia wynikające z obecnej trudnej sytuacji polityczno-gospodarczej, które mogą negatywnie wpłynąć na produkcję pszenicy. Przedstawiają działania podjęte już przez władze Ukrainy w celu wspierania producentów rolnych i proponują sposoby, w jaki kraj może utrzymać swój status czołowego eksportera zbóż.

**Słowa kluczowe:** produkcja pszenicy, eksport zbóż, potencjał eksportowy, bezpieczeństwo żywnościowe, rolnictwo