

DEVELOPMENT STRATEGY OF THE GRAIN MARKET OF UKRAINE FOR EXPORT

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Abstract. The grain market is a sphere of grain circulation, strategic interests for multinational corporations, which includes its processing. The growth in demand for wheat is due to the growing population in the world and other factors that affect the country's food security. Communication interaction between producer and consumer creates an organizational system in the form of various forms of markets: markets, fairs, auctions, exchanges and more. The trend of increasing the cost of grain is observed around the world because production volumes are insufficient to meet all the needs of the population. The grain market is the main lever in the Ukrainian market. The strategy for the development of grain crops affects the reproduction of the country's economy as a whole and changes in macro and microeconomic indicators. The climatic conditions of the regions are important factors for the prosperity of the grain market and ensuring yields. A favorable political climate is impossible without the export of domestic products, namely grain. Many countries cannot produce enough grain and import it. A significant share of grain production is concentrated in developed countries, so ensuring it is an important issue around the world, the solution of which is to finance the import of grain crops, including wheat. Ukraine has a huge land potential (chernozems), as well as the prospects and opportunities to expand areas for sowing, thus increasing grain production and strengthening its position in the world market. Grain is an important type of product and has its own versatility, a number of countries around the world annually purchase significant volumes of sourdough products. Ukraine fully meets its domestic needs and is one of the exporters of grain to the EU and the world. Increasing grain yields will help increase production. Due to its uniqueness and long storage time, grain remains a necessary component of the population's life. Not every country is able to increase production, for this it is necessary to apply strategic measures, in particular in agricultural policy. This is intervention in the grain market, agricultural subsidies and others. Grain resources consist of stocks of previous periods, production and imports. In Ukraine, grain production is increasing. Demand for quality products exists in both domestic and foreign markets. High commodity grades of wheat can be produced under favorable natural conditions, so additional investment in growing quality products is a significant economic lever that ensures the economic growth of the country. *Methodology.* The purpose of the article is to analyze the grain market and study the role of the state in building a strategy for the development of grain exports. Empirical research methods were used in the study. A comparison of the main indicators of the world grain market and Ukraine's place in it was made. Due to the use of theoretical research methods, in particular analysis and synthesis, the main features of the grain market were identified and characterized. The main factors influencing the development of the world grain market were identified. High quality of grain production and processing increases the country's competitiveness on the world market. *Results.* According to the results of the study, it can be concluded that over the past year, despite the trends of coronavirus in the country, Ukraine has strengthened its position and taken a leading position in the production and export of cereals. Factors that affect grain yields in the world also affect yields in Ukraine. *Practical implications.* During the strategic analysis in our case, we found that the world grain market is affected by many factors: reducing the area for planting in developing countries, increasing grain use, wheat is beginning to occupy a leading position as a food crop, increasing cereal consumption by traditional rice producers, especially in China. The volume of export resources and competitive products is an important advantage of Ukrainian products on the world market. Practical studies have shown that the volume of production and export of Ukrainian grain to international markets also depends on the world grain market. *Value/originality.* These studies make it possible to determine the country's place in grain exports to international markets and factors influencing the development of international trade.

Key words: market, grain, balance, wheat, production, consumption, exports.

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1. Introduction

Research of the grain market and tendencies of its development is an important direction in determining the role of the agro-industrial complex. The country's economy cannot function without intersectoral relations and the assessment of macroeconomic indicators. To ensure the food security of the country, grain is of strategic importance because the population is supplied with the necessary food.

In modern conditions of the farm it is possible to get an average yield, increasing grain production through the use of new varieties of grain, high quality materials, the use of mineral fertilizers and increasing sown areas. Organizational and economic issues must be addressed through state support. Agroclimatic conditions of the country allow to obtain an average yield of high-protein strengthening of the material and technical base of domestic producers because today's grain exporters have high grain quality due to strengthening of this factor.

To address topical issues, it is necessary to increase the interest of domestic producers in increasing the volume of quality grain production and exports to the world market.

World grain production in 2020 increased by 1.7 million tons to 2,767 million tons, which is 2.1 percent more than was produced in 2019. This increase is due to the production of feed grains in Africa. The forecast of world grain consumption in the 2020–2021 season was raised compared to the April forecast by 6.0 million tons to 2,783 million tons, which is 2.7 percent more than in 2019–2020. This month's upward adjustment is due to a 4.2 million ton increase in the forecast for corn consumption in 2020–2021, mainly due to higher-than-expected feed consumption in China and the United States. As a result, the forecast of total feed grain consumption has been revised and assumes exceeding the level of 2019–2020 by 3.4 percent. It is estimated that China will account for almost 60 percent of the increase in feed grain consumption for feed compared to last year. Total wheat consumption in the 2020–2021 season has changed slightly this month and is projected to increase by 1.7 percent compared to last season, with the most significant factor in the expected increase (for the first time since the 2011–2012 season) will be the projected growth feed consumption, which will almost entirely fall on China. In 2020–2021, an

increase of 1.9 percent is expected compared to the previous year, which is due to the expected increase in food consumption and the resumption of feed purchases.

2. Forecast of grain stocks in the world

The forecast for the world's grain stocks at the end of the 2021 agricultural season has been revised downwards by 2.8 million tons to 805 million tons, and is now 2.3 million tons below the level at the beginning of the season. As a result of this review, the global ratio of grain stocks and their consumption is 28.3 percent against 29.6 percent in the 2019–2020 season, which is the lowest figure in seven years. The forecast for feed stocks in the world has been reduced by 4.1 million tons compared to last month's forecast; this is 7.4 percent lower than the volume of stocks at the beginning of the season, mainly due to the likelihood of declining corn stocks in the United States and China. According to slightly revised data compared to last month towards an increase in the forecast of world wheat stocks, it is expected that they may increase by 2.8 percent compared to the beginning of the season, and in China this increase over last year will be more than 40 percent (Ambrosov, 2013). Following a revision of the 400,000 tonne increase, the world's rice stocks at the end of the 2020–2021 season are projected at the beginning of the season, as stock reductions may be offset by increasing stocks in India, the United States and Thailand.

According to forecasts, world grain trade in the 2020–2021 season will reach 467 million tons, which is slightly higher than the April forecast, and compared to last year higher by 5.9 percent. The forecast for world trade in feed grain in 2020–2021 (July-June) compared to last month has not changed and still predicts a significant increase (9.2 percent) against the level of the season 2019–2020, mainly in connection with language with probable record volumes of purchases by China of corn and barley. Wheat trade in the 2020–2021 season (July-June) is expected to grow by 2.0 percent compared to estimates for the 2019–2020 season due to expected growth compared to last year in import demand from China, Morocco and Pakistan. The forecast for world rice trade in the 2021 calendar year has remained virtually unchanged compared to April and predicts an increase of 6.4 percent compared to 2020.

The forecast for world wheat production in 2021 has been lowered, and according to the latest forecasts, its volume may reach 778.8 million tons, although this figure is still 4 million tons (0.5 percent) higher than the projected volume of production in 2020. This decrease in production forecasts is related to the European Union, where production was 4 million tons lower than expected due to the reduction of sown areas compared to the original forecasts. However, annual production in the EU is projected to grow by 6 percent to 133.3 million tons, which, combined with favorable yields in the UK, US and Ukraine, gives a generally positive outlook for world production this year.

It is expected that in the sales season of 2021–2022, world wheat consumption will increase by 0.9 percent to 770 million tons due to the projected increase compared to the previous season of consumption for food needs and as technological raw materials. It is assumed that consumption for food needs will increase mainly with population growth; at the same time, in the 2021–2022 season, the consumption of wheat as a technological raw material will increase the most in the UK and India. Wheat feed consumption, by contrast, may decline compared to the projected record level of 2020–2021 primarily due to the projected reduction in feed wheat consumption in China, where potentially more attractive prices for corn and other feed grains may facilitate the transition to their use as fodder instead of wheat (Goncharov, 2009).

Based on production forecasts for 2021 and consumption forecasts for 2021–2022, according to preliminary FAO forecasts, world wheat stocks at the end of the season in 2022 may reach a record 293 million tons, which is 3 percent more than at the beginning of the season. It is expected that in 2021–2022 in China, wheat stocks will grow, which will be a major factor in the projected increase in world stocks; in addition, the EU and Ukraine are expected to replenish stocks after several years of a tense supply situation. Inventories in the United States and the Russian Federation, as well as in some countries in Africa and Asia, on the contrary, may decline compared to their volume at the beginning of the season. At the regional level, wheat stocks are expected to decline in Asia (excluding China) and Africa, where stocks may decline to their lowest level since the 2012–2013 season.

3. Export of products to the market of Argentina and the EU

After the expected growth of trade volumes in 2020–2021 (July–June) to record levels, the volume of wheat trade in 2021–2022 may decrease by 1.8 percent to 185 million tons. According to initial estimates, we can expect a reduction in procurement from China, as well as Morocco and Pakistan. In the previous year they imported large volumes, and domestic supply was also high. In terms of exports, the expected increase in supplies from Argentina and the EU combined with more favorable yields will be accompanied by declining sales in Australia, Canada and the Russian Federation due to less favorable production forecasts, as well as from the United States due to with a reduction in supplies due to the low level of transitional stocks and the expected expansion of feed consumption (Yerokhin, 2002). However, it is expected that in 2021–2022 the Russian Federation will maintain its position as the largest exporter of wheat in the world (Table 1).

1. Production data refer to the calendar year of the first year of the specified period. The indicator for rice production refers to polished rice.

2. Production plus opening stocks.

3. Trade data refer to exports based on a July/June marketing season for wheat and coarse grains and on a January/December marketing season for rice (second year indicated).

4. The indicator may not be equal to the difference between the volume of supply and the volume of consumption due to differences between the accounting years in the sales system adopted in different countries.

5. The five largest exporters of grain are Australia, Argentina, the EU, Canada and the United States; the main exporters of rice are Vietnam, India, Pakistan, the United States and Thailand. Use is defined as domestic consumption plus exports during this period.

The growth of feed grain production over three years is due to increased corn production, despite the bad weather conditions (Table 2). In the future there will be an expansion of areas for sowing, which is influenced by the factor of rising prices (Kondratenko, 2010). The growth of production also applies to Brazil, China, Africa and the EU, which will contribute to the formation of more favorable forecasts for world production of feed grain (Table 3).

Table 1

World cereal market

	Production ^{1/}	Supply ^{2/}	Utilization	Trade ^{3/}	Ending stocks ^{4/}	World stock-to-use ratio	Major exporters' stock-to-disappearance ratio ^{5/}
	(million tonnes)					(percent)	
2011/12	2 357,8	2 922,3	2 320,1	322,4	597,9	25,5	18,4
2012/13	2 318,6	2 916,5	2 331,8	318,2	595,2	24,2	17,4
2013/14	2 556,2	3 151,5	2 448,9	363,9	674,1	26,8	18,7
2014/15	2 608,0	3 282,1	2 506,9	377,5	770,9	30,0	19,5
2015/16	2 586,7	3 357,7	2 553,4	394,4	794,4	30,2	17,1
2016/17	2 664,5	3 458,9	2 627,8	408,1	828,8	31,2	17,9
2017/18	2 693,7	3 522,4	2 655,4	424,2	862,4	32,1	18,3
2018/19	2 646,8	3 509,1	2 687,9	412,2	837,3	30,9	18,9
2019/20	2 709,9	3 547,2	2 710,2	440,9	824,0	29,6	18,1
2020/21	2 767,0	3 591,0	2 782,7	466,8	805,0	28,3	17,6

Source: (FAO: Global cereal supply prospects for 2016/17 improve further/News/AgroChart)

Table 2

World coarse grain market

	Production ^{1/}	Supply ^{2/}	Utilization	Trade ^{3/}	Ending stocks ^{4/}	World stock-to-use ratio	Major exporters' stock-to-disappearance ratio ^{5/}
	(million tonnes)					(percent)	
2011/12	480,0	609,5	462,0	40,6	147,1	31,2	25,2
2012/13	485,1	632,2	469,3	40,2	162,6	33,8	28,0
2013/14	490,9	653,5	480,4	45,5	172,1	35,3	29,0
2014/15	490,5	662,6	487,1	45,1	174,1	35,4	24,6
2015/16	489,0	663,1	490,6	41,4	172,4	34,9	19,7
2016/17	497,1	669,5	494,6	48,4	173,7	34,9	18,9
2017/18	499,9	673,6	497,8	48,7	176,9	35,3	18,1
2018/19	507,1	684,0	500,7	44,2	185,7	36,8	22,5
2019/20	503,0	688,7	504,4	45,4	182,7	35,6	24,3
2020/21	513,2	695,9	513,7	48,4	183,1	35,3	24,9

Table 3

World rice market

	Production ^{1/}	Supply ^{2/}	Utilization	Trade ^{3/}	Ending stocks ^{4/}	World stock-to-use ratio	Major exporters' stock-to-disappearance ratio ^{5/}
	(million tonnes)					(percent)	
2011/12	480,0	609,5	462,0	40,6	147,1	31,2	25,2
2012/13	485,1	632,2	469,3	40,2	162,6	33,8	28,0
2013/14	490,9	653,5	480,4	45,5	172,1	35,3	29,0
2014/15	490,5	662,6	487,1	45,1	174,1	35,4	24,6
2015/16	489,0	663,1	490,6	41,4	172,4	34,9	19,7
2016/17	497,1	669,5	494,6	48,4	173,7	34,9	18,9
2017/18	499,9	673,6	497,8	48,7	176,9	35,3	18,1
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2020/21	513,2	695,9	513,7	48,4	183,1	35,3	24,9

Table 4

World wheat market: opportunities for Ukraine

World wheat market (export / import)	Country	Million tons	Value in %
Key exporting countries of Ukrainian wheat in 2020	Egypt	3.1	11
	Indonesia	2.7	10
	Bangladesh	1.5	5
Ukraine's main competitors in wheat supplies to Egypt (Ukraine's share of 23%)	Russian Federation	8.3	62
	France	0.7	6
	Romania	0.6	4
Ukraine's main competitors in wheat supplies to Indonesia (Ukraine's share of 26%)	Argentina	2.6	26
	Canada	2.3	23
	USA	1.3	12
	Australia	0.8	8
Ukraine's main competitors in wheat supplies to Bangladesh (Ukraine's share of 27%)	Russian Federation	1.9	35
	Canada	1.2	21
	Argentina	0.5	10
	USA	0.3	6

Wheat has the largest trade volume in the world among cereals and they are constantly growing. Therefore, in the future this culture will remain one of the key in the export portfolio of Ukraine (Table 4).

4. World wheat market

The main importers of Ukrainian wheat are Egypt (11% of Ukrainian exports), Indonesia (10%) and Bangladesh (5%). In each of these markets in 2020, Ukrainian suppliers occupy a leading position. The structure of wheat imports in terms of major supplier countries is as follows:

- Egypt: the Russian Federation (62%), Ukraine (23%), France (6%);
- Indonesia: Ukraine (26%), Argentina (26%), Canada (23%);
- Bangladesh: the Russian Federation (35%), Ukraine (27%), Canada (21%).

Small farmers have small agricultural areas and limited financial resources, so they need a lot of support from the state. To stimulate the development of small farmers, it is necessary to increase state subsidies and financial support to those farms that have just been established, as well as to add payments for advisory services (Mazaraki, 2014).

The amount of the budget subsidy to newly established farms has been increased from 3,000 UAH to 5,000 UAH per unit of arable land (1 hectare). Payments in the amount of 36,000 UAH for the agricultural advisory service were also introduced. In addition, the types of

cows for which a budget subsidy will be provided to farms have been expanded.

5. Conclusions

The grain market must be attributed to the most climate-dependent sectors of the economy, and it has a significant impact in yielding/lean years on the policy of the state. Thus, the grain market is a strategically important segment of the economy.

Grain is the primary foundation and one of the main components of all world food production. The well-being of all mankind largely depends on the quantity and quality of the harvest of grain crops. Grain market development level as an indicator of quality economic development of the country also largely determines the level of social stability of society. The development of the grain market affects not only issues related to the functioning of directly the grain economy itself, but also the entire agri-food complex of the country.

State influence should be more active in the grain market, namely through the creation and implementation of a multifaceted state regulatory policy through interconnected and an agreed system of organizational and legal, economic, innovative and other types of activity, creation of effective and understandable instruments for the regulation of the grain market. As the main negative factors, deterring further increases in global grain production, there should be noted: firstly, reduction of land suitable for sowing grain

crops associated with a high level of urbanization and the need to preserve forests; secondly, environmental problems, including number in connection with the introduction of previously unused land into circulation; thirdly, the limited amount of water resources; and finally, the reduction financing of agricultural production.

Every year the volume of grain production in the world is growing steadily. The main reason may be serve good yields to major grain exporters. The

main types of cereals the crops on the world market are wheat, oats, barley, corn, buckwheat, rice and peas.

In the course of the research, it is revealed that Ukraine has a huge potential for increasing not only production volumes, but also export volumes. The main leaders, competitors of Ukraine on the world arena, which for a very long time remained the main regulators in this the world market, leave their positions.

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