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Ukraine's Second Front: Sowing Campaign 2022

The 2022 sowing campaign is the most difficult in the history of independent Ukraine. As a result of hostilities, farmers encounter numerous problems with logistics, fuel supply, seeds, fertilizers, plant protection products, interruptions in the availability of agricultural machinery, spare parts, equipment, significant difficulties in the export of agricultural products, a deficit of working capital, and a shortage of labour. The war leads to a catastrophe that will affect both local agriculture and the global agricultural market. Therefore, the importance of this year's sowing campaign is measured not only in terms of "harvest", "price", or "profit" but also from the perspective of the continued existence of the Ukrainian state and food security in the world.

Reduction of the sown area. Ukraine is in the top five world exporters of food and in the top three for some food products. It ranks fifth in wheat exports, fourth in corn, third in barley, and first in sunflower oil. The country has exported approx. 70-80% of all agricultural products so far, which has allowed it to feed about 300-400 mln people worldwide a year.

Ukrainian experts emphasize that there is currently no significant threat to the country's food security. Part of the area was sown with winter crops in the fall of 2021 in amounts comparable to the previous years; wheat – 6.5 mln ha, rape – 1.02 mln ha, barley – 1 mln ha, rye – 159 thousand ha. This sowing overwintered well due to the optimal temperature and sufficient soil moisture. Some farms already managed to fertilize winter crops in February, before the start of hostilities.

The war in Ukraine led to a forced reduction of the sown area by 25-30% compared to 2021. As of March 23, 2022, the predicted sown area of the main spring crops in the territory controlled by Ukraine is 5.99 mln ha, which is 1.69 mln ha less than last year. For example, most districts of the Sumy region will not be able to carry out sowing at the optimal time. It is worth emphasizing that even those fields that are available are often mined, so tractor drivers refuse to work there, and demining of the area is not possible yet. The same problems exist also in the Donetsk, Luhansk, Kharkiv, Chernihiv, Kyiv, Zaporizhia, Odessa, and Mikolaiv regions.

Change in the structure of crops. The hostilities have forced the Ministry of Agrarian Policy and Food of Ukraine and the farmers to reconsider their sowing strategy. The following factors will now be taken into account when selecting a crop:

1. *Focusing on the domestic market.* Grain exports from Ukraine have virtually stopped because all the ports were besieged at the beginning of the war. The railway, the only transport left, can carry only 20 thousand tons. The government is currently working on opening new export routes.
2. *Growing fuel prices.* Farmers are trying in different ways to reduce the consumption of diesel during sowing, e.g., by using a no-till system¹.
3. *Minimization of the use of fertilizers and plant protection products.* Crops that need fewer fertilizers and protection products are preferred.
4. *Reduction of time consumption.* Focus on crops that require less care.
5. *Storage problems.* The risk of downtime in processing plants, which is crucial for the corn and sunflower harvest, will also be taken into account.

¹ The no-till system consists of not applying any cultivation treatments and direct sowing into the soil that has not been subjected to any preparatory treatments for sowing.

There were concerns after the outbreak of the war that some farmers would not have time to buy seeds, fertilizers, and fuel, but these problems were eventually resolved. As of April 20, 2022, sowing has begun in twenty-four regions of Ukraine, traditionally starting from the southern regions. The main crops are spring wheat, peas, buckwheat, corn, soybeans, sunflower seeds, millet, oats and sugar beet. Taking into account the situation in the country, the area of high-margin and export-oriented crops, namely sunflower and corn, is expected to decrease. At the same time, the area of crops that are easier to produce and also important for the food security of the country will increase, especially peas, barley, millet, and oats. For example, it is planned to replace corn with wheat in the Rivne region, as this is currently needed more in the country. There are also plans to increase buckwheat yields.

The Ministry of Agrarian Policy and Food reports that almost all fields in Ukraine will be sown. In areas where hostilities continue, farmers “open the agricultural front” in all controlled territories. However, due to the high risks, these areas will receive support from neighbouring regions. For example, the Odessa region that used to grow vegetables and fodder products mainly for its local needs will increase its production capacity due to intense hostilities in the Mykolaiv and Kherson regions.

State support for farmers. Since the beginning of the war, the Ukrainian government has made a number of important decisions supporting the agro-industrial sector. Most of them are aimed at ensuring the seeding campaign in the country. The access of agricultural producers to fuel, the registration of agricultural machinery, and seed certification have already been simplified; the licensing for the import of plant protection products has been deregulated, and the licensing for the export of corn and sunflower oil has been revoked. Besides this, the procedures for leasing municipal agricultural lands during wartime have been facilitated. The government has also postponed the appointment to the army of those conscripts who are necessary for important branches of the economy, especially the agro-industrial sector.

Moreover, a program of additional financial support for this sector was launched, which provides that Ukrainian farmers, during the martial law and within a month after its end, can receive a loan of up to UAH 60 mln for 0%, and the state guarantees banks 80% return of the amount of such a loan in case of failure to pay it back. In total, the Cabinet of Ministers allocated UAH 25 bln to preferential loans for carrying out the seeding campaign. According to Prime Minister Denys Shmyhal, these funds are sufficient to support all small and medium-sized farmers planning to start sowing this year. As of April 18, Ukrainian banks have already issued UAH 6.7 bln for sowing.

Destruction of distribution logistics. Ukraine achieved a record harvest of cereals and legumes of 86.7 mln tons last year. The estimated volume of exports amounted to 65 mln tons. 43 mln tons (including 18 mln tons of wheat) had already been exported before the outbreak of the war. Exports through the Black Sea and Azov Sea ports are currently completely stopped.

Land logistics options through Poland, Romania, and Hungary are urgently being developed, with further use of the European Union ports on the Baltic and Black Seas. However, the volume of exports, in this case, will be much smaller. Not more than 10% of the usual capacity of Ukrainian ports can be transported across the western border. This means that if Ukraine exported 5-5.5 mln tons of grain a month through its ports, it will be possible to export a maximum of 500 thousand tons through its western borders. It is evident that without the maintenance of sea trade routes the country will cease to be a player in the world market.

Conclusions

– Taking into account the ongoing war and the forced reduction of the sowing acreage, it is not possible to predict the size of the harvest in 2022. However, the Ukrainian government and farmers do not forecast a shortage of agricultural products and claim that the internal demand for almost all types of agricultural crops will be met.

- Ukrainian farmers will focus primarily on the domestic market and its needs this year, and not on export. This approach results from concerns about the country's food security and the need to ensure the possibility of selling future crops.
- The war caused changes in the structure of sowing. The volume of food grains and groats, including buckwheat, barley, and peas, increased significantly due to the reduction of corn and soybeans. Most farmers, in their choice of crops, focus on their own seed stocks.
- Forced reduction of sown areas and problems with the export of crops will primarily negatively affect the supply to North Africa, the Middle East, and Southeast Asia, which import Ukrainian agricultural products. Most of them are least developed countries or countries with low income and food shortages. The main buyers of Ukrainian wheat are Egypt, Indonesia, Turkey, Pakistan, Bangladesh, Morocco, Yemen, Saudi Arabia, Tunisia, Lebanon, Ethiopia, Libya, and the Philippines; corn – China, Spain, the Netherlands; barley – China, Turkey, Saudi Arabia.
- This forced abrupt reduction in exports will lead to an increase in food prices all over the world, which will also affect countries that are not directly dependent on Ukrainian exports. The price of wheat on the Chicago Board of Trade since the beginning of the war has risen by 60% and reached an unprecedented USD 495 per ton on March 4.
- The war in Ukraine may result in a global food crisis. It will affect at least hundreds of millions of people and could ultimately lead to widespread hunger, food riots, and mass migration in the world's poorest countries, which will also affect countries less touched by this food crisis.