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**NEW GENERATIONS TECHNOLOGY IN MILK INDUSTRY**

In March 2023, the decrease in raw milk prices in the EU countries, which began at the end of 2022, continued. Before that, from July-2020 to December-2022 (30 months/2.5

years in a row) in the EU countries, prices for raw milk continuously increased, reaching their peak in December-2022 – €58.3/100 kg. At the same time, in some EU countries they exceeded the mark of €60. However, at the end of 2022, a downward trend began, and in March-2023, the decline in prices accelerated: the EU average decreased to €51.2 (-12.2% against the level of December-2022). Raw milk prices in the first quarter of 2023 in the main countries producing/importing milk products to Ukraine "settled" compared to their peak values in December 2022: in Lithuania - by almost 30%; Poland – 22%; – Belgium – 21%; – in the Netherlands – 18%; – Germany – 17%, Denmark – 14%. Raw milk prices in France (down by less than 5%) and Italy (down by 0.5%) were characterized by lower volatility in the 1st quarter of 2023.

Thus, in the EU countries - the main producers of milk in the EU (Germany, the Netherlands, Poland), whose products were quite widely represented on the domestic dairy market before the war, prices for raw milk decreased by almost 20% on average.

A significant difference in the price levels of milk raw materials under long-term contracts in the EU countries and Ukraine formed favorable conditions for the development of the dairy industry of Ukraine in the II half of 2022 - after a significant decrease in the official national currency in July 2022. In certain periods, the domestic price of raw milk in Ukraine under long-term contracts was about 60% of the average European level (the difference in prices reached 1.65 times).

However, from the beginning of 2023, the price situation began to change not in favor of domestic milk processors. In particular, the price level in the Baltic countries (Lithuania, Latvia), whose products are present on the domestic market, is rapidly decreasing and is already approaching the price level in Ukraine (expressed in euros, taking into account the difference in the supply base) - in March-2023, the difference in prices did not exceed 5%.

If the prices of long-term contracts for the supply of milk raw materials in EU countries still significantly exceed the current level in Ukraine in March-2023, then the spot prices already practically correspond, and in some countries are already lower than the domestic indicators of March-2023.

After all, in contrast to the price situation on the raw milk market in the EU countries, where a rather stable downward trend has formed, the prices of raw milk in Ukraine have remained practically unchanged since December 2022. In the first quarter of 2023, the domestic raw milk market saw a price "lull": the price remained stably high, as it was formed on the basis of positive export expectations for October-November 2022.

In addition, due to a certain revaluation of the hryvnia in February-March 2022, the domestic price of raw milk expressed in euros increased slightly - to €34.6, which is almost 70% of the average indicator for EU countries and more than 75% of indicator of Poland.

Market of dairy products. In March-2023, in contrast to February-2023, the prices of exchange milk products (BMP) began to decrease again - and the decrease applied to all types of BMP without exception: butter and SNM (-1%); SZM (-3%); Edam cheese and whey (-

5%). In March-2023, the prices of BMPs decreased compared to the level of December-2022: for oil and SNM - by 17%; on SZM and serum - by 15%; for Edam cheese - by 18%.

The decrease in the level of prices for BMP in March-2023 compared to their level in June-2022 (in 9 months) was: for serum - 40%; SZM – 37%; SNM – 33%; oil - 32%.

That is, the prices of these BMPs have decreased over the past 9 months by more than a third on average. Only "Edam" cheese lost "only" 15% in price during this period.

So, despite the fact that the prices of raw milk in the EU increased in the second half of 2022, the prices of stock-exchange milk products decreased.

In February 2023, a correction took place: the prices of dairy products stabilized, but the prices of raw milk began to decrease sharply.

In March 2023, price trends for raw milk and milk products were synchronized.

The characteristics of the price level for stock exchange dairy products on average across EU countries in March 2023 are summarized in the table:

At the end of 2023, there is a seasonal slowdown in milk production in the US and Europe. At the same time, in New Zealand and Australia, there are favorable conditions for increasing milk production in 2024. Import demand for dairy products is falling in Mexico, and Southeast Asia, North Asia, including China, are buying less dairy than last year.

Production and demand Europe. According to preliminary data from clal.it, in October 2023 the situation in the field of milk production differed in different European countries. For example, if in such large dairy exporting countries as the Netherlands and Poland, milk production increased to 1.11 million tons (+1.8%) and 1.04 million tons (+0.6%), compared to September 2023, then milk production in Latvia and Lithuania decreased to 70,000 tons (-4.3%) and 119,000 tons (-5%) compared to the previous month. The adverse weather conditions over the summer continued impacting EU agriculture. These have mixed impacts across the EU as yields of different arable and specialised crops as well as the quality of some products.

At the same time, there have been signs of positive market prospects, as input costs continued declining (e.g. energy, fertilisers, and feed). Lower EU agricultural prices resulted in a further reduction of the EU farmer price index. While processor and consumer price indices resisted this move for some time, they stopped in the last months increasing which could potentially bring some relief to the domestic food demand in the coming months. The recovery in EU exports of some agricultural commodities was supported by more competitive EU prices. This is likely to continue in 2024 as the EUR to USD exchange rate is expected to remain relatively low. On the other hand, the EU market remains attractive for imports.

These issues form the basis for the autumn 2023 edition of the short-term outlook report. Market outlooks are provided for the EU-27. In addition to the short-term outlook, the Commission also publishes a statistical annex. The longer time series of EU balance sheets are available in the Agri-food data portal. Compared to the summer 2023 macroeconomic forecast, the combination of tightened monetary policy and sluggish economic growth has led

to a downward revision in economic growth that would affect 2024 as well. Energy inflation continues its decline, but the reduction of supply by OPEC+ countries is bringing an upward price effect on crude oil prices from 2024.

Natural gas prices are increasing towards winter months despite the 90% storage capacity reached in September. Nevertheless, the development of natural gas prices so far improved the affordability of nitrogen fertilisers. Encouraging signs for fertiliser affordability but also availability and some reduction of other input costs continue strengthening farmer margins while EU commodity prices continue declining.

EU processor and consumer price indices started to decline. While the EU food inflation stopped increasing, it remained above general inflation level and at a historically 1. However, monthly food inflation in the EU started to decline in July but prices remain a big concern for consumers, as the cost of living remains elevated, and prices might further evolve in light of the new harvest and uncertain developments in Ukraine.

Lower EU prices of certain commodities observed in past months supported some recovery of EU exports, for example, milk powders. In some other cases, they continue suffering from high global food inflation and lower EU availability, which further pushes prices up for some products (e.g. olive oil, and fruit). 2023/24 EU cereal production is projected at 268.5 million tonnes (4.3% below the 5-year average), mostly due to the adverse weather conditions over spring and summer that affected negatively especially maize and barley production (13% and 7% below the 5-year average). The EU use of cereals is stable compared to the last marketing year, but 1.4% below the 5-year average. Because the overall EU animal production remains relatively stable (but differentiates among species), the increase in the use of cereals for feed is expected to be rather marginal (+0.3%), while the use of cereals for biofuel production continues growing (12% above 2022/23). After a historically high level of EU cereal imports in 2022/23, they are likely to be lower in 2023/24, although still above the 5-year average.

The EU oilseed production in 2023/24 is expected to be at 33 million tonnes (11% above 5-year average), mainly due to an excellent rapeseed harvest (13.3% above 5-year average). With a production of 4.6 million tonnes, protein crops availability will be higher (7.7% above the 5-year average).

2023/24 EU sugar production is forecast at 15.6 million tonnes (close to the 5-year average) as sugar beet planting area, beet yields, and sugar content are expected to increase. EU production of isoglucose, which was estimated to fall by 24% in 2022/23 due to the consequences of the 2022 summer drought, high feedstock, and input costs in main EU producing countries, is expected to partially recover in 2023/24.

Following the record low EU olive oil production in 2022/23, no full recovery of the production potential due to adverse weather conditions is expected in 2023/24, as it could likely reach only around 1.5 million tonnes. Combined with lower beginning stocks, prices

stay at a record high which could continue having negative impacts in 2023/24 on EU exports (-10%) and further reduce EU consumption (-6%).

The EU wine production in 2023/24 could decline as well (around 6%), mainly due to a drop in Italian production which is likely to lose its first position as the largest EU producer to FR. EU consumption of wine could follow its decreasing trend while other uses could grow, supported by crisis distillation. Given this, EU imports will continue declining while EU exports could remain stable, following relatively high volumes traded last year.

Adverse weather conditions could negatively impact EU apple production in 2023/24 (-2.4% year-on-year) and orange production (-2%). In both cases, the reported quality is low, and consequently, more fruit is anticipated to be channelled to processing. In addition, this is driven by still high storage costs. Lower availability of fresh apples and oranges, combined with high consumer prices are likely to push their consumption further down. EU exports of fresh fruit are expected to decline while imports could grow, more in the case of apples which could recover from low levels. Therefore, we can conclude that the biomethane industry is a new sector of the bioeconomy both in the world and in Ukraine. The implementation of biomethane projects will help Ukrainian companies produce "green" energy, replace fossil fuels, reduce greenhouse gas emissions, significantly increase innovative production, obtain organic fertilizers to increase yields, reduce production costs and become independent of volatile energy markets.

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