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ТЕНДЕНЦІЇ І ПРИОРИТЕТИ РОЗВИТКУ ВІТЧИЗНЯНОГО РИНКУ ВИНОГРАДУ І ПЛОДОВО-ЯГДНИХ КУЛЬТУР У ВОЄННИЙ І ПОВОЄННИЙ ПЕРІОД

Актуальність. У воянні і повоєнний періоди актуальним є питання щодо формування дієвого механізму розвитку вітчизняних товарних ринків аграрної продукції. Його побудова вимагає вивчення ринкових тенденцій, так як війна спричинила сумніси дисбалансу у розвитку ринків агропромислової продукції. Значення руйнування виробничих та переробних підприємств, розвинутий логістичних ланцюгів поставки, втрати ринкових переваг на стратегічних міжнародних ринках, окремих сегментах ринку, підприємницьких ініціатив, порушення балансу зовнішньої торгівлі – все це обумовлює потребу моніторингу тенденцій розвитку товарних ринків аграрної продукції залишаєсть визначення приоритетів розвитку у воянні і повоєнні періоди. Особливого уваги потребують ринок винограду та плодово-ягдних культур як стратегічно важливих для розвитку суцільних товарних ринків.

Мета та завдання. Метою дослідження полягає у визначенні тенденцій та приоритетних напрямів розвитку вітчизняного ринку винограду і плодово-ягдної продукції у воянні та повоєнний періоди. Завдання дослідження: на основі аналізу тенденцій розвитку ринку винограду і плодово-ягдної продукції, визначення приоритетних напрямів розвитку в усякій і повоєнній періоди, враховуючи сівітні тенденції в світлі перебудови глобального економічного устроя.

Матеріали та методи. Матеріалами дослідження стали напрацювання вітчизняних науковців щодо дослідження розвитку ринків продукції. Для проведення аналітичного огляду та визначення тенденцій розвитку ринків - використані дані Державної служби статистики України, Міністерства аграрної політики та продовольства України, Української асоціації аграрного експорту. Основні методи, що використовувалися: індукція та синтез, системно-структурний підхід, статистичний метод, а задля візуального представлення отриманих даних – табличний та графічний методи.

Результати. Проаналізовано тенденції розвитку ринку винограду та плодово-ягдної продукції. Показано, що навіть під час війни, Україна намагалася зберегти позиції як ключового експортера аграрної продукції. Визначено, що за останні роки в сортовому складі плодово-ягдних культур діються зміни, що вплинули на урожайність та обсяги виробництва плодово-ягдних культур. Досліджено, що в усіх регіонах України виробляють вино, а територіально виноробники сконцентровані переважно на Півдні, що несе певні ризики через втрати виноградників порушують логістику й відбуваються перебої у виробництві. Визначено, що ягідний продукт є товаром, що характеризується зростаючим попитом та розширенням сортового складу, але випалаг від виробників пошук шляхів якісного покращення та налагодження виробництва продукції. Це потребує удосконалення технології виробництва та глибиної переробки, формування ефективної зовнішньоекономічної політики направленої на експорту товарів з високою доданою вартістю.

Висновки. Визначено, що через воянні дії відбулося скорочення обсягів виробництва садівного матеріалу винограду та обсягів виробництва вина, що привело до зниження рівня конкурентоздатності виноробних підприємств як на національному, так і міжнародному рівнях. Визначено, що на ринку плодів та ягід присутня тенденція щодо загального скорочення експорту, хоча по окремим позиціям виробникам вдається навести обсяги, при тому, що дефіцит фруктів на внутрішньому ринку досить високий. Перспективами для вивчення...
TRENDS AND PRIORITIES OF THE DEVELOPMENT OF THE DOMESTIC MARKET OF GRAPES AND FRUIT AND BERRY CROPS IN THE WAR AND POST-WAR PERIOD

Topicality. In the wartime and postwar periods, the issue of forming an effective mechanism for the development of domestic agricultural commodity markets is relevant. Its construction requires the study of market trends, since the war caused significant imbalances in the development of agri-food markets. Significant destruction of production and processing enterprises, disruption of logistics supply chains, loss of market advantages in strategic international markets, certain market segments, entrepreneurial initiatives, and imbalance in foreign trade - all this necessitates monitoring trends in the development of agricultural commodity markets to determine development priorities in the war and post-war periods. Particular attention should be paid to the market of grapes and fruit and berry crops as strategically important for the development of related commodity markets.

Aim and tasks. The purpose of the study is to determine the trends and priority areas of development of the domestic market of grapes and fruit and berry products in the war and post-war periods. Objectives of the study: based on the analysis of trends in the development of the market of grapes and fruit and berry products, to outline the priority areas of development in the war and post-war periods, taking into account world trends in the light of the restructuring of the global economic system.

Materials and methods. The research materials are based on the work of domestic scientists on the study of the development of agricultural markets. The data of the State Statistics Service of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine, and the Ukrainian Agrarian Export Association were used to conduct an analytical review and identify market development trends. The main methods used were: induction and synthesis, systemic and structural approach, statistical method, and for visual presentation of the data obtained - tabular and graphical methods.

Research results. The trends in the development of the grape and fruit and berry market are analyzed. It is shown that even during the war, Ukraine is trying to maintain its position as a key exporter of agricultural products. It is determined that in recent years, changes have occurred in the varietal composition of fruit and berry crops, which have affected the yield and production of fruit and berry crops. It has been studied that wine is produced in all regions of Ukraine, and vineyards are concentrated mainly in the South, which carries certain risks - due to the loss of vineyards, logistics is disrupted and production and expansion is interrupted. It has been determined that berry products are a commodity characterized by growing demand and expanding markets, which requires producers to find ways to improve and establish production. This requires improvement of production technology and deep processing, formation of an effective foreign economic policy aimed at exporting goods with high added value.

Conclusion. It is determined that due to military actions, there was a decrease in the production of grape planting material and wine production, which led to a decrease in the competitiveness of wineries at both the national and international levels. It is determined that the market of fruits and berries has a tendency to reduce exports overall, although producers have managed to increase volumes for some items, despite the fact that the shortage of fruits in the domestic market is quite high. Promising areas for study include the quality of finished products, limitations on the
range of products, lack of high-quality packaging and packing of fruits and berries and appropriate storage and processing facilities, pricing policy, development of new logistics systems and global value chains.

**Keywords:** grape market, fruit and berry market, exports, imports, commodity markets, self-sufficiency, supply chain.

**Problem statement and its connection with important scientific and practical tasks.** The country’s food supply currently requires special attention in terms of its stable provision during the war and the period of post-war recovery. The formation of an effective mechanism for the development of domestic commodity markets is one of the priority tasks in this area. In particular, this applies to agricultural markets. The war caused significant imbalances in the development of not only international markets but also the global commodity market. This had a negative impact on the development of commodity markets in Ukraine. Due to the significant destruction of both production and processing enterprises, disruption of logistics supply chains (both at the global and national levels), loss of market advantages in strategic international markets, certain market segments, business initiatives, and imbalance in foreign trade, there is a need to develop strategies for import substitution of important goods and resources (in particular, those without which agricultural production cannot fully utilize the existing production potential). All of this requires economic science to develop new approaches, methods, and mechanisms for creating new and ensuring the functioning of existing domestic agricultural commodity markets, and to determine the priorities for their development in the postwar period. In particular, the grape and fruit and berry markets as strategically important for the development of agricultural commodity markets in the postwar period require special attention. Since their development will have a direct impact on food security by serving not only as a basis for meeting the physiological needs of the population for fruit, but also for forming a resource base for the development of related markets - juice products, wine, baby food, etc.

**Analysis of recent publications on the problem.** Such scientists as Salo I.A., Popova O.P. (Salo, I., Popova, O., 2019), Kolokolchykova I.V. studied the issues of formation of market demand and supply for fruit and berry products (Kolokolchykova I., 2019). Regional aspects of viticulture and winemaking development in their works were considered by the following scientists: Avercheva N. identified the reasons for the deterioration of the efficiency of the wine industry and substantiated the directions of its improvement in her publications, problematic issues of the viticulture and wine industry are reflected in the works of Tsymbaliuk K. The effectiveness of Ukraine's foreign trade in the market of fruit and berry products was considered by Dukhnytskyi B., in particular, in terms of studying the commodity structure of exports of fruits and berries of individual countries in comparison with Ukraine. A separate block of research is the study of the logistics of the Ukrainian market of fruit and berry products, the study of the institutional environment of its functioning and the development of mechanisms and measures to stimulate the creation and functioning of wholesale markets for agricultural products (Burkynskyi, B.V., Nikishyna, O.V. & Tarakanov, M.L., et al., 2022). Considerable research has been carried out in order to substantiate the current directions of development of the regions of Ukraine on the basis of sustainability, in particular in the field of forming mechanisms for the reproductive development of strategic agro-food markets, solving promising problems regarding the development of transport systems, and substantiated the most effective ways of organizing freight transportation in order to preserve the quality of transported products (Burkynskyi, B.V., Laiko, O.I. & Andrieieva, N.M. et al. (2020)).

**Allocation of previously unsolved parts of the general problem.** Scientists have outlined a wide range of issues and problems related to the development of strategic agricultural markets and proposed ways to solve them, but this list is not exhaustive. In particular, the issue of determining the priority directions of development of the market of grapes and fruit and berry products in the war and post-war periods, taking into account the possibilities of using the import substitution strategy, remains relevant and imperfectly studied.

**Formulation of research objectives (problem statement).** The purpose of the study is to identify trends and priority areas for the development of the domestic market of grapes and fruit and berry products in the war and post-war periods. Objectives of the research: based on the analysis of trends in the development of the market of grapes and fruit and berry products, to outline the priority areas of development in the war and post-war periods, taking into account world trends in the light of the restructuring of the global economic system.

**Materials and methods.** The study was based on the work of domestic scientists on the development of agricultural markets. The
information base for the analytical review and identification of market development trends was based on the data of the State Statistics Service of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine; the analysis of export potential was carried out according to the Ukrainian Agricultural Export Association. The main methods used were: induction and synthesis, systemic and structural approach, statistical method, and tabular and graphical methods for visual presentation of the data.

An outline of the main results and their justification. The full-scale invasion of Ukrainian lands by the aggressor country has led to the destruction of established economic relations in the agricultural sector of the economy, disruption of logistics chains, and simultaneous devaluation of the accumulated basis for the prospects of their integration into global markets. One of the most vulnerable commodity markets, which suffered the most significant losses relative to others, is the grape market and the market for fruit and berry products.

The country’s agrarian potential is quite powerful and flexible to the impact of environmental factors. Even during the war, when entire agricultural formations were destroyed, some enterprises were partially damaged, agricultural land was contaminated, crops and perennial plantations were destroyed, and livestock farms were bombed, Ukraine is trying to maintain its position as a key exporter of agricultural products.

As a result of the hostilities, a significant part of the vineyard areas was occupied, and another part was contaminated with hazardous materials. The hostilities led to a reduction in the production of grape planting material. This has led to a situation where Ukraine is maintaining a tendency to import wine rather than increase exports. This is largely due to the loss of industry potential during the war.

According to the State Statistics Service of Ukraine, in 2022, the total area of vineyards in all categories of farms amounted to 30.2 thousand hectares of vineyards (including 14.3 thousand hectares of table grapes), hectares, including 29.0 thousand hectares in fruiting age (13.8 thousand hectares are table grapes), and 2578.8 thousand tons of grapes were harvested (including 1907.8 thousand tons of table grapes) (State Statistics Service of Ukraine, 2023) (Table 1). Enterprises account for 60.7% of all planted areas in fruiting age, and the share of the total gross harvest is only 32%, due to significantly lower yields than in households.

<table>
<thead>
<tr>
<th>Category of farms</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation area in fruiting age, thousand hectares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms of all categories</td>
<td>40.7</td>
<td>39.5</td>
<td>37.2</td>
<td>34.7</td>
<td>29</td>
</tr>
<tr>
<td>including: enterprises</td>
<td>28</td>
<td>26.8</td>
<td>24.5</td>
<td>22.1</td>
<td>17.6</td>
</tr>
<tr>
<td>% of enterprises</td>
<td>68.8</td>
<td>67.8</td>
<td>65.9</td>
<td>63.7</td>
<td>60.7</td>
</tr>
<tr>
<td>households</td>
<td>12.7</td>
<td>12.7</td>
<td>12.7</td>
<td>12.6</td>
<td>11.4</td>
</tr>
<tr>
<td>% of households</td>
<td>31.2</td>
<td>32.2</td>
<td>34.1</td>
<td>36.3</td>
<td>39.3</td>
</tr>
<tr>
<td>Gross harvest, thousand tons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms of all categories</td>
<td>4676.3</td>
<td>3663</td>
<td>2809.6</td>
<td>2641.2</td>
<td>2578.8</td>
</tr>
<tr>
<td>including: enterprises</td>
<td>2627</td>
<td>1445.4</td>
<td>986.5</td>
<td>1015.4</td>
<td>825.3</td>
</tr>
<tr>
<td>% of enterprises</td>
<td>56.2</td>
<td>39.5</td>
<td>35.1</td>
<td>38.4</td>
<td>32.0</td>
</tr>
<tr>
<td>households</td>
<td>2049.3</td>
<td>2217.6</td>
<td>1823.1</td>
<td>1625.8</td>
<td>1753.5</td>
</tr>
<tr>
<td>% of households</td>
<td>43.8</td>
<td>60.5</td>
<td>64.9</td>
<td>61.6</td>
<td>68.0</td>
</tr>
<tr>
<td>Yield, c/ha</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms of all categories</td>
<td>114.9</td>
<td>92.7</td>
<td>75.6</td>
<td>76.1</td>
<td>89</td>
</tr>
<tr>
<td>including: enterprises</td>
<td>93.6</td>
<td>53.8</td>
<td>40.3</td>
<td>46</td>
<td>46.9</td>
</tr>
<tr>
<td>deviation from the average yield (+,-)</td>
<td>-21.3</td>
<td>-38.9</td>
<td>-35.3</td>
<td>-30.1</td>
<td>-42.1</td>
</tr>
<tr>
<td>households</td>
<td>162</td>
<td>175.2</td>
<td>144.1</td>
<td>128.5</td>
<td>153.9</td>
</tr>
<tr>
<td>deviation from the average yield (+,-)</td>
<td>47.1</td>
<td>82.5</td>
<td>68.5</td>
<td>52.4</td>
<td>64.9</td>
</tr>
</tbody>
</table>

Source: compiled by the authors according to the data of the State Statistics Service of Ukraine (Official website of the State Statistics Service of Ukraine, 2023)
Characterizing the territorial boundaries of the market, it is worth noting that grape growing and wine and spirits production are key industries for the south of the country. Odesa region, in particular, accounts for 60% of the total volume of wine produced in Ukraine. There are 49 wineries in Odesa region, employing about 6,000 people during the grape harvesting and processing season, the main ones are listed in Table 2.

### Table 2

#### Characterization of wine-making potential by region*

<table>
<thead>
<tr>
<th>Region</th>
<th>Characteristics</th>
<th>Leading enterprises (vineyard area over 20 hectares, Podillia, West, Center - over 1 hectare)</th>
<th>The main grape varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bessarabia (70% of the area is in Moldova, and 30% is in Ukraine)</td>
<td>The first plantings were made in Slobodzeya, Yasksy, Hololvivka, Bilyayivka, and Adzhhyera (Ovidiopol). The vineyard strips did not extend beyond the river border.</td>
<td>Shabo Industrial and Trade Company, Kolonist Winery, Vinhol Oksamyntse LLC, TVD Agrocapital LLC, PAVA TM, National Scientific Center “Tairov Institute of Viticulture and Winemaking”, V. Petrov Winery, Christophe Lacarin, other small and craft private wineries</td>
<td>White grape varieties: Riesling, Sauvignon Chardonnay, Pinot Gris, Muscat, Sukholimansky White, Muscat Odesa, Zagrein, Aromatic, Yarilo, Arcadia and others.</td>
</tr>
<tr>
<td>Black Sea region</td>
<td>Odesa, Mykolaiv and part of Kherson regions. In particular, it is on the border of the Northern Black Sea that the boundary of uncovered industrial culture runs.</td>
<td>Koblevo JSC, Inkerman Ukraine LLC, Guliev Winery, Kurin Family Winery**, Tavria House of Vintage Cognacs PJSC***, Inkerman Ukraine LLC, Belozersky State Farm, other small and craft private wineries.</td>
<td>White grape varieties: Rkatsiteli, Muscat Ottonel, Chardonnay, Sauvignon Blanc and others.</td>
</tr>
<tr>
<td>Transcarpathia</td>
<td>A special vineyard and nursery base were established. 1953 - the vineyard area is 5400 hectares. Every year 1200-1500 hectares of new plantings were planted. In 1960, the vineyards (excluding individual sector) amounted to 14.5 thousand hectares. Wineries with automatic lines producing bottled wines were built.</td>
<td>Chateau Chizay Winery, Cotnar Winery, Chateau Pauk Winery, and other small and craft private wineries.</td>
<td>White grape varieties: Bianca, Gewürztraminer, Muscat Golodryga, Chardonnay, Sauvignon Blanc, and others.</td>
</tr>
<tr>
<td>Podillia</td>
<td>In 2018, the Union of Vinnytsia Region Winemakers and Winemakers was registered as a public organization. In 2019, the company was incorporated as a non-governmental organization, the Union of Winegrowers and Winemakers Podilsky Tovtry. The company specializes in the production of table wines, champagne and cognac wine materials, and table grapes.</td>
<td>Gigineishvili Wine House (15 hectares), Father's Wine Family Winery (5 hectares), Bohdan's Winery (1 hectare), Zelenytisa Family Winery (1.5 hectares), Kalyus Winery (leases 2 hectares of vineyards in Kherson region), and other small and craft private wineries. Grapes are supplied from Odesa region.</td>
<td>The main zoned varieties are Aligote, Riesling, and Fetjaska for technical purposes, and Zhenschu Zh Saba and Shasla for table use.</td>
</tr>
</tbody>
</table>
Before the full-scale invasion, viticulture was also developing in Kherson region, in particular in the form of craft production. In 2022, the products of the Kurin Family Winery (Kherson, Kherson region, 212 km of the Odesa-Melitopol-Novozavodsky highway (M-14) won the first stage of the international wine tourism competition Wine Travel Awards in the nomination "Business Card of Ukraine" (the application was submitted in September 2021) (Black Sea | wine guide of Ukraine. Wine Guide of Ukraine). Such recognition will allow the owners of the winery to receive support from international organizations (through either grant programs or earmarked funds) to restore the family wine business in the postwar period. As of now, the plantations have been almost completely destroyed.

Another example of the destruction of "prospects", including export potential, is the Private Joint Stock Company Artwinery (Bakhmut, Donetsk region), which as of 2020 was the largest enterprise in Eastern Europe producing sparkling wines using the classic bottling method. The company was also among the largest European enterprises producing sparkling wine using the classic bottling method. Due to the active hostilities, it is not possible to increase the capacity of this enterprise.

Along with the loss of domestic grape production, there has also been a decline in imports. In 2022, Ukraine imported 42.43 tons worth 55733 thousand dollars, which is almost twice less than in 2021 (imports amounted to 80 tons worth 69676 thousand dollars) (The import of grapes decreased - AgroTimes. (2024, January 26)).

Over the past 20 years, significant adjustments have been made to the varietal list of fruit and berry crops, which have led to changes in planting areas and affected yields and volumes of fruit and berry crops. These adjustments have had a positive impact, as research farms are progressing and providing fruit and berry producers with high-quality planting material.
The result of the various vicissitudes that have occurred over the past two decades has been a 2.7-fold reduction in the area of apple plantations and a 36.8% reduction in pear plantations (Fruit and berry industry of Ukraine: Status and development prospects, 2023). The most significant decrease in the area of pome crop plantations was experienced by agricultural enterprises, as in the small segment of the agricultural sector, households are actively working in this business area, and as a result, the area of apple plantations in them increased by 40.2%, and pear plantations decreased by only 2.6%. The most significant share of the area planted with pome crops is allocated to households: apple trees - 67.8%, pears - 92.5%. During the period of analysis, a gradual and constant reduction in the area of plantations can be observed (Fig. 1).

Over the past 20 years, apple yields have increased 5.3 times and reached 151.5 tons per hectare in 2021 (Fruit and berry industry of Ukraine: Status and development prospects, 2023). The largest increase in yields was achieved by industrial orchards of agricultural enterprises, as in households, apple yields increased by only 37.5% and in 2021 amounted to 149.6 c per 1 ha. In 2022, a certain decrease in the yield of both pears and apple trees is expected. However, for the period 2018-2022, yields were almost at the same level (Fig. 2).

Over 20 years (since 2002), the total apple production increased by 97.3% to 1278.9 thousand tons in 2021. In households, apple production increased by 93.8% to 856.0 thousand tons in 2021, which corresponds to 66.9% of total production.

Pear production increased by 4.9% over the same period and reached 163.3 thousand tons in 2021. Small producers increased their production by 5.9% to 155.7 thousand tons. At the same time, the share of households reached 95.3% of the total pear production in the reporting year. However, if we analyze the dynamics over the past 5 years, we can note a certain decrease in gross production, which is due to a decrease in area and yield (Fig. 3).
Stone fruits have also experienced a reduction in area and, consequently, production. In particular, over the past 20 years, the area planted with stone fruit crops has decreased: plums - by 33.0%, cherries - by 39.1%, apricots - by 36.2%, and peaches - by 81.2%. However, despite the rapid decline in the area, there has been a slight upward trend in recent years (Fig. 4).

The area of stone fruit plantations in fruiting age decreased the most in agricultural enterprises, while in households it increased by 4.4%. On the other hand, the area of apricots, peaches and cherries did not decrease significantly - by 4.6%, 10.4% and 13.3%, respectively. Analyzing the dynamics of the last 5 years, we can say that the area under these plantations is constantly decreasing, which negatively affects the level of supply of this group of fruits to the population.

Despite the reduction in the area under these plantations, there has been an increase in stone fruit yields. This indicates that the vast majority of agricultural enterprises and households pay attention to the quality of planting material rather than the area of plantations. Over the past decade, plum yields have more than doubled and in 2022 reached 100.3 c per 1 ha. The sweet cherry yield during this period increased by 33.0% and in 2022 amounted to 82.5 tons per 1 ha. The peach yield increased the most among the listed stone fruits - almost three times and in 2022 amounted to 85.9 tons per 1 ha (Fig. 5).
The reduction in planted areas (as yield fluctuations over the last 5 years are not significant, and there is an increase compared to the level of 2000-2004) has led to a decrease in production (Figure 6).

The total production of other stone fruits decreased significantly during the study period. While in 2018, 218.7 thousand tons of sweet cherries were harvested, in 2022 it was only 58 thousand tons. The situation with apricots is similar: production has been halved. At the same time, the share of households in total production was: cherries - 95.5%, apricots - 98.9%, peaches - 78.5%.

Ukraine is unique in that its natural and climatic conditions are suitable for the development of all crop production sectors, including berry growing. Berries have high nutritional value and a rich vitamin composition. They are characterized by good taste and excellent productivity and are able to provide consumers with fresh products from...
early spring to autumn through the cultivation of remontant varieties (Fruit and berry industry of Ukraine: Status and development prospects, 2023). The list of areas planted with berry crops is currently dominated by strawberries, strawberries, raspberries and blackberries, as well as currants (Fig. 7).

Fig. 7. Dynamics of planted areas of berry crops in Ukraine, thousand hectares*
*Source: compiled by the authors according to the data of the State Statistics Service of Ukraine (Official website of the State Statistics Service of Ukraine, 2023)

Over the past two decades, the area under strawberries and strawberries increased by 6.7%, and raspberries and blackberries by 5.9%. The growth in the area of these crops was primarily due to the assistance of agricultural enterprises, as in households there was a decrease in the plantings of strawberries and strawberries, raspberries and blackberries by 1.4% and 4.3%, respectively. The area of currant plantations decreased by 15.9% during the study period. Over the past 5 years, there has been a decrease in the area in 2022, which is due to military operations.

Berries are an agricultural commodity characterized by growing demand and expanding markets. This requires producers to look for ways to improve the quality and increase production. The most effective method is to improve production technology based on increasing the yield of berry crops.

Fig. 8. Dynamics of berry crop yields in Ukraine, tons per 1 ha*
*Source: compiled by the authors according to the data of the State Statistics Service of Ukraine (Official website of the State Statistics Service of Ukraine, 2023)

During the period under study, there was a significant increase in the yield of berry crops: raspberries and blackberries - by 73.3%, strawberries and strawberries - by 81.5%, and currants - by 61.7%. In the berry gardens of households, yields increased by 75.3%, 76.4%, and 31.6%, respectively. Analyzing the dynamics over the study period, it is worth noting the dynamic and at the same time rapid and productive development of berry growing (Fig. 9).
Since 2000, the total production of strawberries and strawberries has increased by 68.2% to 54.0 thou tons in 2022. Raspberry and blackberry production increased by 72.6% to 34.3 thou tons, and currant production increased by 26% to 25.0 thou tons.

The integration and internationalization of commodity markets requires producers to take into account international trade requirements and trends in global markets. In addition to the above-mentioned product groups, nut crops are of strategic importance in the global healthy food market. Nut growing is currently one of the most profitable areas of the agricultural sector. The most common nut crop in Ukraine is walnut. The most favorable growing conditions are in the northern and western regions.

Table 3

<table>
<thead>
<tr>
<th>Category of farms</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation area in fruiting age, thousand hectares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms of all categories</td>
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<td>13,9</td>
<td>13,4</td>
<td>13,8</td>
<td>13,4</td>
</tr>
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<td>1</td>
<td>1,2</td>
<td>1,8</td>
</tr>
<tr>
<td>% of enterprises</td>
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<td>10,8</td>
<td>7,5</td>
<td>8,7</td>
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</tr>
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<td>12,4</td>
<td>12,4</td>
<td>12,6</td>
<td>11,6</td>
</tr>
<tr>
<td>% of households</td>
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<td>89,2</td>
<td>92,5</td>
<td>91,3</td>
<td>86,6</td>
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<td>Gross harvest, thousand tons</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Farms of all categories</td>
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<td>1258,5</td>
<td>1133,2</td>
<td>1154,2</td>
<td>1076,6</td>
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<tr>
<td>including: enterprises</td>
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<td>9</td>
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<td>98,6</td>
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<tr>
<td>Yield, c/ha</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Farms of all categories</td>
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<td>80,3</td>
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<td>8,2</td>
</tr>
<tr>
<td>deviation from the average yield (+,-)</td>
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<td>-74,7</td>
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<td>-72,1</td>
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<td>99,4</td>
<td>89,6</td>
<td>90,9</td>
<td>91,5</td>
</tr>
<tr>
<td>deviation from the average yield (+,-)</td>
<td>9,4</td>
<td>11,2</td>
<td>8,4</td>
<td>7,3</td>
<td>11,2</td>
</tr>
</tbody>
</table>

*Source: compiled by the authors according to the data of the State Statistics Service of Ukraine (Official website of the State Statistics Service of Ukraine, 2023)*
Over the past 20 years, the area of walnut plantations has decreased by 8.0% and in 2022 amounted to 13.4 thousand hectares. More than 91.3% of all plantations are located in the private sector of households. Yields in private households exceed the average by 11.2 c/ha, while yields in agricultural enterprises remain quite low at 6.2-10.5 c/ha. Over the past five years, walnut production has remained almost at the same level, with small farms being the main producers, accounting for 98.9% of total production.

As identified in the study above, only 20.8% of fruits and berries in Ukraine are grown in industrial gardens and berry gardens of agricultural enterprises, and the rest are grown in households. Therefore, the potential for industrial production development to bring products not only to domestic but also to foreign commodity markets is great. Given that fruits and berries are an important part of the food balance, as they are consumed fresh (providing the body with easily digestible carbohydrates, vitamins, organic acids), they are valuable raw materials for further industrial processing to produce frozen products, juices, jams, and baby food. The issue of developing the fruit and berry market during the war and postwar periods is one of the strategic ones, as it is extremely important in the period of post-war reconstruction. Providing children with quality baby food is the "foundation" for the formation of competitive human capital, in particular, the physical component of human capital (Sokolyuk, K. Yu., & Zachosa, O. D., 2021).

Under the current conditions, despite the above-mentioned usefulness and importance of fruit and berry products for the formation of a healthy human diet, they take the last place in the consumer basket according to the level of compliance of actual consumption with the rational norm of 90 kg and the minimum norm of 68 kg. According to recent studies, Ukrainians (living in one of the most agriculturally developed countries) consume less fruit and berries by one and a half times than the average consumer in the world and by two times than a resident of a European country.

According to researchers, the main reason for unbalanced diets is the lack of household resources to buy enough food. In particular, they lack meat and dairy products, fresh fruits, berries and grapes, fish and fish products in their diets (Mudrak, R., Lagodienko, V., Osipova, A., Froter, O., & Sokoliuk, K. (2024)).

In such circumstances, it is important to assess the ability of domestic production to meet market needs. This can be determined by using such an indicator as the level of self-sufficiency, in this case, in fruits and berries. This indicator is determined by the ratio of production to domestic needs. This can be expressed as a percentage (Fig. 10).

Fig. 10. Availability of fruit and berry consumption fund

In 2000, the level of self-sufficiency in fruits and berries was 105.9%, indicating overproduction in that year. By the beginning of 2010, this figure dropped significantly to 73.7%. This indicates that the domestic market was shortchanged by 26.3%. From 2010 to 2021, there was a tendency to increase production and, accordingly, the level of self-sufficiency. In 2021, this figure was already 79.3%. However, this is not enough, as domestic production does not meet domestic consumption. That is, the consumption of fruits and berries currently depends on imports. In particular, in 2021, the level of import dependence was 48.5%. A negative phenomenon is that imports include not only exotic fruits, but also those grown in Ukraine - apples, apricots, pears, etc.
In order to improve the level of actual consumption of fruits and berries by the population (following the rational norm), it is necessary not only to produce quality products, but also to improve the demographic situation and increase the level of purchasing power.

Based on previous studies, the level of Ukrainian production and export of fruit and berry products is currently low relative to foreign importers. There is a need to revise the export orientation, regulatory and legal support in the system of improving the varietal composition in order to improve the quality of the final product and meet demand not only at the national but also at the international level.

Despite the constant shelling and threats of destruction, Ukraine has not abandoned its leadership position as one of the main exporters of agricultural products. In particular, according to research summarized by the State Customs Service of Ukraine, in 2023 (Ukrinform, 2024), agri-food products (groups 1-24 of UCGFEA, as well as casein, albumin, skins, fur, wool, etc.) were exported for USD 22.1 billion. THIS IS A SIGNIFICANT INCREASE. Despite the fact that this is 21% less than in 2021 at USD 27.9 billion (a record high). Despite being 21% less than the record-breaking USD 27.9 billion in 2021 and 7% less than in 2023 (In the 2023 season, the export of berries from Ukraine increased significantly, 2024), it was the fifth highest since Ukraine's independence.

The key exported products have traditionally been cereals, various oilseeds, oils and fats, residues of the food and processing industry, as well as meat and offal. Despite the fact that a significant area of berry and fruit orchards was destroyed, in calendar year 2023, amid a general decline in exports of fruit and berry products, the largest exports of frozen berries and other fruits in the history of Ukraine were recorded - 87 thousand tons, which exceeds the record of 2022 by 84 thousand tons.

In 2023, export revenues from fruits, berries and nuts amounted to $257 million, down 18% from 2022 (The export of horticulture products is decreasing for the second year in a row, 2024). In particular, frozen berries and fruits dominated in the structure of export revenues in this category of products - $132 million, or 51.36% of the total group.

In other words, the trend toward a general decline in exports of fruits (for example, sales of apples and pears abroad amounted to 42 thousand tons, which is 10% less than last year), berries, and nuts continues, although producers managed not only to maintain volumes but also to increase them for some items. In particular, this applies to value-added goods, namely the growth of exports in kind:

- frozen fruits - 87 thousand tons (+ 3%);
- walnuts - 31 thousand tons (+21%);
- berry crops - 5 thousand tons (+19%).

However, for now, it is worth focusing directly on ensuring domestic consumption. As identified in the study above, insufficient production leads to a lack of nutrients in the diet of Ukrainians (Mudrak, R., Lagodiienko, V., Osipova, A., Froter, O., & Sokoliuk, K., 2024).
berries (as of 2021) was as follows: raspberries - 20%, blueberries - 17%, walnuts (without shells) - 15%, apples - 13%, watermelons - 8%, blackberries - 3%, strawberries and strawberries - 3%, cranberries and blueberries - 2%, plums - 1%. The company exported its products to the following countries: Poland, Germany, France, Italy, the Netherlands, Austria, the Czech Republic, and Azerbaijan.

The formation of a strong food base in the wartime and postwar periods is aimed primarily at providing the country's population with essential goods, primarily food. In order to provide fruits and berries of high quality and in the required quantity, Ukraine has significant potential and prospects for increasing their production, especially industrial production. In 2021, domestic enterprises planted 2,429 hectares of young orchards, including: pome crops - 688 hectares; stone fruits - 460 hectares; berries - 528 hectares; nut plantations - 753 hectares. In the future, when the plantations reach fruiting age, there is a basis not only for restoring the production potential lost due to the war, but also for increasing it.

Therefore, the priority areas for further development of the grape and fruit and berry market should be:
- Increasing production capacity in compliance with the principles of intensification (increasing the yield and quality of the product, rather than the area of plantations, by using high-quality planting material);
- Strengthening the work of research institutions in the area of breeding and integrating their findings into production;
- Emphasis on deep processing to ensure a balanced diet for the country's population - development of a system of related commodity markets;
- Use of an import substitution strategy in combination with a protectionist policy to support and protect domestic producers and facilitate the implementation of the previously listed areas.

Conclusions and perspectives of further research. Having studied the state and development of the markets of grapes and fruit and berry products, the main trends have been identified. It is determined that due to the fact that a significant part of the vineyard areas is under occupation, and another part is contaminated with hazardous materials, there has been a reduction in the production of grape planting material and wine production. This has led to a situation where Ukraine is experiencing a tendency to import wine rather than increase exports. At the same time, the reduction in the production of grapes and wine materials has led to a decrease in the competitiveness of wineries in the international market due to the destruction of established economic relations, disruption of supply chains, and the simultaneous evaluation of the accumulated basis for their integration into global markets.

It is determined that the fruit and berry market is showing a tendency towards a general decline in exports (for example, sales of apples and pears abroad amounted to 42 thousand tons, which is 10% less than last year), while berries and nuts remain, although producers managed not only to maintain volumes but also to increase them for some items. This, in turn, requires a detailed study, as the deficit of fruits in the domestic market is quite high (for example, the deficit for pears is about 70%).

In addition, the quality of finished products, limitations on the range of products, lack of high-quality packaging and packaging of fruits and berries, and appropriate storage and processing facilities are still promising areas for study. A separate area of research for the market of both grapes and fruit and berry products is the formation of a pricing policy that depends on seasonal and regional fluctuations. It is also equally important to develop new logistics systems at both national and international levels and global value chains.

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