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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы «ҚР ҰҒА Хабаршысы» ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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MARKET COMPETITION AT THE LEVEL OF AGRICULTURAL PRODUCTS DISTRIBUTION

Abstract. The article proved that in the context of European integration, the intensification of competition between producers becomes a major factor of the consolidation and unification of various economic entities, because this is one of the main ways to increase competitiveness, which in turn leads to market concentration. The investigation of the market structure, its type, and hence the economic processes occurring in it, is directly related to determining the state of the competitive environment, its assessment and study of the possibilities of restricting or developing competition. The article reveals the basic principles of development of agricultural enterprises, highlights the problems and prospects of their development in a competitive environment.

The importance of concentration indicators in the context of the relationship between monopoly power and the level of concentration of sellers in the market is substantiated. Methodological aspects of using the market concentration index and the Herfindahl-Hirschman index are analysed; their advantages, disadvantages and possibilities of use in the process of market structure research, its type, state of competitive environment and degree of monopolization are revealed.

In the process of research the concentration of agricultural markets, it was found that there was a moderate level in almost all types of products in Ukraine, only the pork market is highly concentrated. Analysis of the competitiveness of agricultural products shows that a significant market share is occupied by crops such as sunflower and corn. Studies show that there are certain types of products that have a high level of profitability, including rapeseed and barley, but they occupy a small market share.

It is established that to ensure competitive production of agricultural products requires state support of the industry through the provision of tax and credit benefits to enterprises that implement modern business methods. Further prospects for the development of the agricultural sector in Ukraine have been identified.

Key words. Concentration, agricultural products, competitiveness, agricultural enterprises, competitive environment, monopolization, concentration index, Herfindahl-Hirschman index.

Introduction. The main role in the production of agricultural products in market conditions should belong to agricultural enterprises with a high concentration of capital, fixed assets and labour, which allows to increase specialization, more active implementation of modern production facilities, improve technology and organization of production processes and labour and reduce production costs. The opinion of economists is fair, who believe that agricultural enterprises have a significant potential for economic growth: a high level of concentration of skilled labour, capital resources, agricultural land, which under certain conditions can pay off quickly.

Analysis of recent researches and publications. Issues of concentration of agricultural markets and the state of the competitive environment were studied in the works of local and foreign scientists such as: Dzagurov N. [1], Commons J. [2], Coase R. [3], Mochernyi S. [4], Stigler D. [5], Williamson O. [6], Yusupov G. [7].

Thus, given the dynamic changes in modern economic conditions, the aim of the article is an in-depth study of assessing the concentration

of agricultural products and the competitive environment of agricultural enterprises in order to form and increase their competitiveness in both domestic and foreign markets.

Main results of the study. In the analysis of market structure, it is necessary to take into account not only the number of enterprises in the market, but also their size. There may be many sellers in the market, but one or more will dominate.

To describe the market structure and assess the level of its monopolization, it is necessary to study the degree of concentration of sellers in the market, and as supporting information to use data on the level of market (monopoly) power of sellers and non-strategic factors of market structure.

Concentration indicators characterize the degree of uneven distribution of production or sales of goods between economic entities, as well as the possibility of influence of each of them on the general conditions of goods circulation in the relevant market.

Concentration ratio (CR). It is calculated as the percentage of sales (supply) of products by a certain number of the largest sellers to the total sales (supply)

in this product market. The market share of the seller can be calculated as the ratio not only of sales but also the number of employees, the size of assets or value added of the enterprise to the total value of the indicator for the market as a whole [8, p.226].

In most industrialized countries, the concentration ratio is mandatory for statistical monitoring of the market, and in different countries, the shares of different numbers of enterprises are calculated.

A significant disadvantage of the concentration indicator is its «insensitivity» to different options for the distribution of shares between competitors. For example, CR4 will be the same and equal to 80% in two completely different cases: when one company controls 77% of the market, and the other 3 - 1% or when 4 equally powerful companies own 20% of the market each. Therefore, in statistical practice in recent years, more and more widely used other indicators that characterize the level of concentration in general for the analysed set of enterprises.

Ratio Herfindahl-Hirschman Index (HHI) is the most popular synthesis rate takes into account both the number of companies and their unequal position in the market, characterizes the level of monopolization. The value of the coefficient decreases with increasing number of enterprises and increases with increasing inequality between enterprises for any number of them. This means that if accurate data on the market shares of very small enterprises are missing, the final variation will not be large.

In accordance with the different values of the concentration coefficients and Herfindahl-Hirschman coefficients, there are three types of market by degree of concentration [9, p.22], (table 1).

Table 1
Degrees of market concentration

High	70%<CRk<100%	2000<HHI<10000
Moderately	45%<CRk<70%	1000<HHI<2000
Low	CRk<45%	HHI<1000

Studies on the concentration of agricultural markets show that in Ukraine in 2018 there was a moderate level, as the Herfindel-Hirschman index was less than 1000 for all types of products (table 2). Only the pork market is highly concentrated, as this figure is 83.24%. It should be noted that in recent years the concentration of major producers in the corn market has been growing, as evidenced by the concentration ratio of 68.4%.

Table 2
Concentration of the market of agricultural products in Ukraine, 2018

Product	Concentration ratio	Herfindahl-Hirschman index
Wheat	49,9	76,6
Barley	49,2	15,39

Corn	68,4	71,71
Rapeseed	51,1	41,58
Sunflower	45,57	6,59
Pig growth	83,24	206,81
Cattle growth	49,35	30,57
Milk	55,5	32,71

The development of market relations requires first of all the study of theoretical prerequisites and practical recommendations for ensuring the competitiveness of agricultural enterprises. Solving the issue of increasing competitiveness requires solving a set of problems, both at the practical level and at the theoretical level. In modern conditions of housekeeping, the development and implementation of modern technologies in the activities of agricultural enterprises is of paramount importance, which will ensure the economic efficiency of enterprises.

The competitiveness of an agricultural enterprise involves its ability to maintain or expand its competitive position in the target market and influence the market situation through the supply of quality products, thus satisfying consumer requirements and ensuring efficiency. Agricultural enterprises must determine the competitive advantage, which creates for them a certain priority over competing enterprises.

Achieving competitive advantages is ensured by systematic monitoring of the impact of external and internal factors on the competitiveness of the enterprise, as well as determining the feasibility and optimality of their use for the market process [10, p.57].

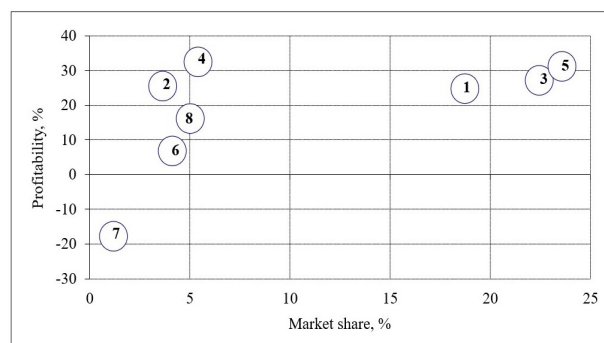


Fig. 1. Analysis of indicators of competitiveness of agricultural products in Ukraine, 2018

- 1 Wheat
- 2 Barley
- 3 Corn
- 4 Rapeseed
- 5 Sunflower
- 6 Pig growth
- 7 Cattle growth
- 8 Milk

Analysis of product competitiveness shows that sunflower occupies a significant market share – 23.6% and has a high level of profitability – 31.6%, corn also occupies a significant market share – 22.4% and provides a profitability – 27.2%. There are certain types of products that have a high level of profitability, in particular rapeseed and barley, but they occupy a small market share (Fig. 1).

To assess the competitiveness of each region, it is advisable to determine an integrated indicator. At the first stage, the indicators that characterize the competitiveness of each type of product are determined, in particular productivity, cost, selling price, profitability, the share of products in revenues, the share of material costs in the cost structure, marketability. In the second stage, the indicators are calculated separately for each region and on average in Ukraine for 2018. The set of indicators is divided into two subsets: stimulants and restrainers. The influence of some factors is direct, and others – reverse. The final stage is the calculation of indices of the ratio of these indicators on farms to the district average by the formula:

$$I_i = \left(\frac{a_i}{a_i} \right)^p$$

where: I_i - the index of competitiveness, determined by the i -th indicator;
 a_i - absolute value of the i - th indicator of competitiveness;
 a_i - average value of the i -th indicator of competitiveness in Ukraine.

In this case, $p = 1$, if the i -th sign is a stimulant and $p = -1$, if it is a restrainer. Indicators are taken as stimulants: yield, the share of material costs in the cost of production, the price of 1 quintal, the share in income, profitability, marketability. The indicator of production cost is a sign of restraining [11, p.40].

The integrated indicator of product competitiveness will be determined by the formula:

$$P_j = \sqrt[n]{\prod_{i=1}^n \left(\frac{a_i}{a_i} \right)^p}$$

where: - integrated indicator of competitiveness of the j - th type of products.

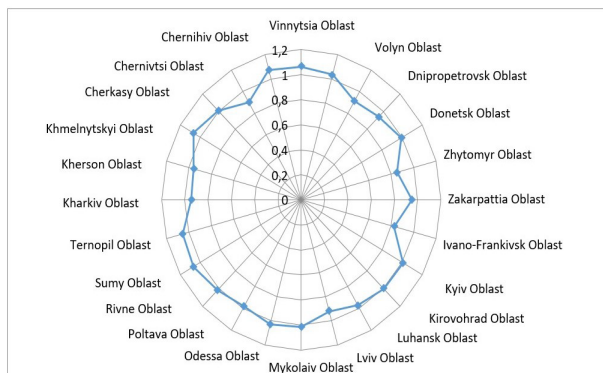


Fig. 2. Integrated indicator of wheat competitiveness in agricultural enterprises of Ukraine, 2018

The analysis shows (Fig. 2) that only agricultural enterprises in 12 regions of Ukraine provide competitive wheat production, or only half of the total. Research has shown that Chernihiv – 1,076, Khmelnytskyi – 1,071 and Sumy regions – 1.07 have a high level of competitiveness of wheat production. Zakarpattia, Chernivtsi and Ivano-Frankivsk regions have the lowest level.

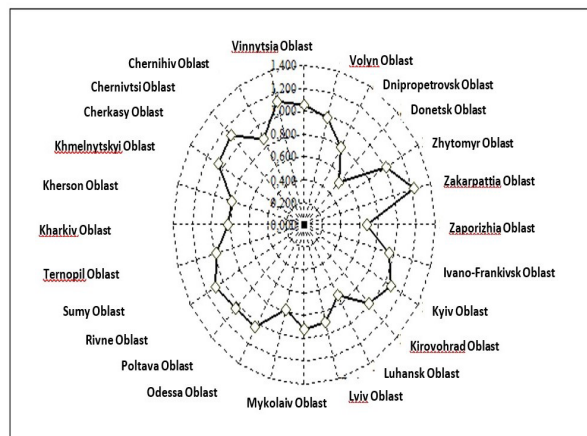


Fig. 3. Integrated indicator of corn competitiveness in agricultural enterprises of Ukraine, 2018

The study of regional competitiveness of corn shows a significant differentiation of the results. Thus, along with the regions that have a fairly high integrated competitiveness index, there are areas in which this indicator ranges from 0.5 to 0.6. It should be noted that Zakarpattia, Chernihiv and Cherkasy regions have the highest level of integrated competitiveness. However, in such regions as Donetsk, Zaporizhia and Luhansk, the integrated competitiveness index fluctuates in the range of 0.52-0.71 (Fig. 3).

The category of competition reflects the objectivity of relations regardless of the goals and intentions of market participants, deprives or limits market power, forces to improve production technologies, improve product quality and find new ways to meet people’s needs. It reveals the diversity of economic reality and the development of markets for individual goods and capital.

Analysis of the competitiveness of sunflower in the regions is not the same, despite the high level of its profitability. Thus, research has shown that the highest integrated competitiveness indicator is in Kharkiv region – 1,106, Donetsk – 1,082, Dnipropetrovsk and Luhansk regions – 1,066. As for such regions as Zakarpattia, Ivano-Frankivsk and Lviv, they have the lowest level of competitiveness among the whole set. It should be noted that competitive production of sunflower is provided by 10 regions in Ukraine (Fig. 4).

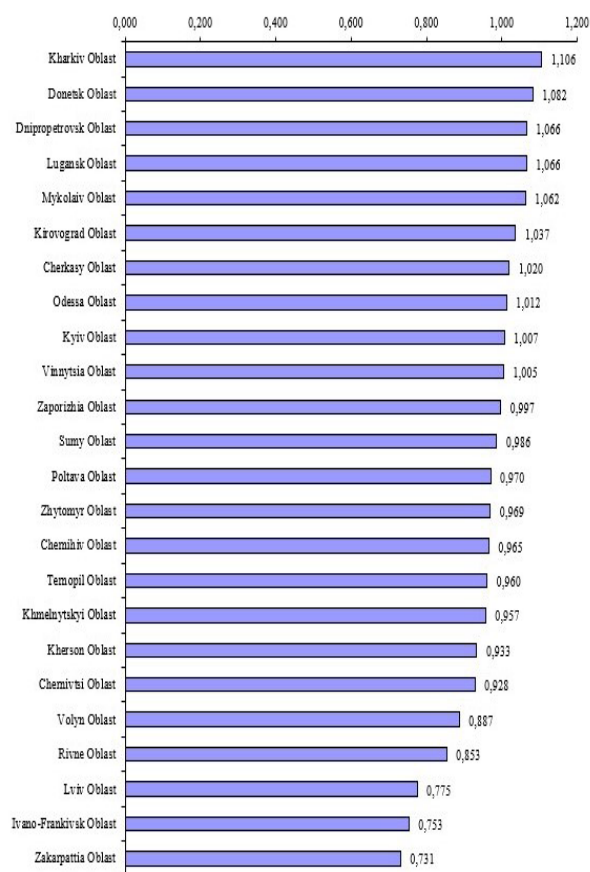


Fig. 4. Integral indicator of sunflower competitiveness in agricultural enterprises of Ukraine, 2018

Conclusions. In the agricultural sector of Ukraine, the institutional formation of the diversity of ownership and forms of management manifested itself in the formation of various organizational and legal forms of economic activity. Problems of organizational and economic nature had their impact on the formation of a competitive environment, which in reality did not provide equal conditions for all economic entities.

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АУЫЛШАРУАШЫЛЫҚ ӨНІМДЕРІН БӨЛУ ДЕҢГЕЙІНДЕ НАРЫҚТАҒЫ БӘСЕКЕЛЕСТІК

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РЫНОЧНАЯ КОНКУРЕНЦИЯ НА УРОВНЕ ДИСТРИБУЦИИ АГРАРНОЙ ПРОДУКЦИИ

Аннотация. Доказано, что в условиях евроинтеграции усиление конкуренции между товаропроизводителями становится основным фактором консолидации и объединения различных субъектов хозяйствования, поскольку именно это является одним из основных путей повышения

конкурентоспособности, что в свою очередь, приводит к повышению уровня рыночной концентрации. Изучение структуры рынка, его типа, а следовательно, экономических процессов, происходящих на нем, непосредственно связано с определением состояния конкурентной среды, её оценки и исследования возможностей ограничения или развития конкуренции.

В статье раскрыты основные принципы развития аграрных предприятий, выделены проблемы и перспективы их развития в условиях конкурентной среды.

Целью статьи является углубленное исследование оценки концентрации сельскохозяйственной продукции и состояния конкурентной среды предприятий аграрной сферы с целью формирования и повышения уровня их конкурентоспособности как на внутреннем так и на внешнем рынках.

Обоснована важность показателей концентрации в контексте взаимосвязи монопольной власти и концентрации продавцов на рынке. Проанализированы методические аспекты использования индекса концентрации рынка и индекса Херфиндаля-Хиршмана, выявлены их преимущества, недостатки и возможности использования в процессе конъюнктурного исследования структуры рынка, его типа, состояния конкурентной среды и степени монополизации.

В процессе исследования концентрации рынков сельскохозяйственной продукции выявлено, что в Украине умеренный уровень концентрации почти по всем видам продукции, высококонцентрированным есть только рынок свинины. Анализ конкурентоспособности аграрной продукции свидетельствует, что значительную долю рынка занимают такие культуры как подсолнечник и кукуруза. Исследования показывают, что есть определенные виды продукции, которые имеют высокий уровень рентабельности, в частности рапс и ячмень, однако они занимают незначительную долю на рынке.

Установлено, что для обеспечения конкурентоспособного производства сельскохозяйственной продукции требуется государственная поддержка отрасли на основе предоставления налоговых и кредитных льгот предприятиям, осуществляющим внедрение современных методов ведения бизнеса. Определены дальнейшие перспективы развития аграрного сектора в Украине.

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