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THE POTENTIAL FOR DEVELOPMENT OF OIL AND FAT INDUSTRY ENTERPRISES

Україна є світовим хабом з виробництва та експорту соняшникової олії. Не дивлячись на загальний спад економіки олійно-жирова галузь залишається найбільш маржинальної серед інших галузей АПК. На ринку функціонують різні оператори ринку, серед яких можливо виділити агрохолдинги та ТНК. Вони займають монопольне положення як у виробництві, так й експорті соняшникової олії. Найбільш привабливими ринками для збуту української олії є країни Азії та ЄС. З метою максимального використання наявного потенціалу, потребують впровадження інноваційні рішення щодо отримання нових посухостійких сортів та гібридів насіння соняшнику, що підвищить валові збори та забезпечить переробні потужності олійно-екстракційних заводів.

Ключові слова: *соняшник, рослинна олія, соняшникова олія, агрохолдинги, ТНК, експорт, потенціал розвитку*

Problem statement. With one of the highest indicators of chernozem supply in the world, Ukraine has established itself as an agrarian country with high potential for crop yields, including sunflower, canola and soybeans. Confirmation of this thesis is the operation of well-known multinational international corporations in our country, the formation and development of domestic agricultural holding companies. In the last decade, the rate of investments in the processing and export of sunflower, soybean, rapeseed oil, etc. have increased. There has been an increase in processing capacity, construction of logistics infrastructure with a closed production cycle, diversification of business strategies of both individual business units and enterprises as a whole.

Literature review. Despite the general significant downturn in Ukraine's economy, agricultural and processing industries remained consistently profitable. The innovative potential and activity of the enterprises of the oil and fat industry are quite high, as evidenced by the research of Britvenko A.S. [1], Orlova N.V. [2], Kaletnik H. et al [3], Feder D. [4] and others. Yet, Britvenko A.S. [2] notes that the development of oil and fat enterprises is facilitated by innovative technologies and strategies for their implementation. Orlova N.V. [2] emphasizes that the solution of the problems of oil and fat enterprises is due to the expansion of cultivated areas for oilseeds, expansion of production capacity based on scientific and technological progresses, development of a new innovation and investment strategy for industrial competitive advantages of oil and fat companies by improving competitive policy. Kaletnik H. et al [3] conclude that Ukraine is active in the process of global markets diversification of edible oil and the development of innovations. Feder D. [4] states that oil and fat companies benefit from constant progress in the field of oilseed cultivation, processing technology, improving functionality and competition in the industry. The author's personal research convincingly demonstrates the competitive advantages of vertical integration of agro-industrial companies, including oil and fat enterprises, over raw materials or processing enterprises [5-9].

Thus, there is a gradual diversification and export orientation of oil and fat companies with the use of innovative technologies and the implementation of strategies for their gradual development.

Purpose of the article. The purpose of the study is to assess the achieved state and future development of the oil and fat industry, by providing their potential using the example of sunflower oil.

Research results. In order to effectively provide processing enterprises with raw materials, agricultural companies (and their divisions) should be engaged in the cultivation of three main oilseeds, namely: rapeseed, sunflower and soybeans (Table 1).

1. Production volume, yield and harvested area of oilseeds in Ukraine

Agricultural culture	Area collected, thousand hectares		Production volume, thousand centners		Yield, c per 1 ha of harvested area	
	2020	2020 in % until 2019	2020	2020 in % until 2019	2020	2020 in % until 2019
Soybean	1323,2	82,0	27709,3	74,9	20,9	91,2
Specific weight this year enterprises, %	86,2	x	89,7	x	x	x
Winter rape and colza (spring rape)	1104,9	86,3	25863,5	78,8	23,4	91,3
Specific weight this year enterprises, %	98,8	x	98,9	x	x	x
winter rape	1077,8	86,2	25274,6	78,6	23,4	90,9
Specific weight this year enterprises, %	98,8	x	99,0	x	x	x
colza (spring rape)	27,1	90,9	588,9	93,4	21,9	102,9
Specific weight this year enterprises, %	97,4	x	97,7	x	x	x
Sunflower	6381,3	107,1	131358,0	86,1	20,6	80,5
Specific weight this year enterprises, %	82,9	x	87,6	x	x	x

Source: http://www.ukrstat.gov.ua/index.html and own calculations.

In 2020, there was a decrease in all indicators of oilseeds production. In cultivation as well as production, sunflower occupies the leading positions respectively at 58.9% and 70.3%. In general, the increasing figures for sunflower did not give tangible results, as yields decreased by almost 20%, which also had a negative impact on the gross harvest by almost 14%.

The dominant position in the cultivation of oilseeds is occupied by agricultural enterprises. Thus, soybean production indicators account for 86.2% of total cultivated figure and 89.7% of gross harvest in favor of agricultural enterprises. The situation is similar for sunflower, with dominant figures of 82.9% and 87.6%, respectively. The highest level of concentration is observed for rapeseed, where agricultural enterprises concentrated net figures of 98.8% for cultivation and 98.9% for the gross harvest.

The main role in growing and further increasing the production of oilseeds is designated to agricultural enterprises, agricultural holdings and transnational corporations (TNCs). Additionally, only a small share of agricultural holdings (Kernel and MHP), are engaged in the provision of raw materials from locally owned oil extraction plants.

The general scheme of integrating specified market participants can be represented as follows (fig. 1). Agricultural holdings, in contrast to TNCs operating in Ukraine, have their own agricultural divisions, which makes them more independent of market fluctuations. However, the processing capacity of such agricultural holdings is greater than the production capacity of agricultural companies integrated into their structure. In these circumstances, agricultural holdings must enter into contracts with private agricultural enterprises at market prices or by agreement. The functioning of TNCs is a similar scheme, except for the fact that they do not include private agricultural enterprises. These observations apply only to market participants in oil and fat production.

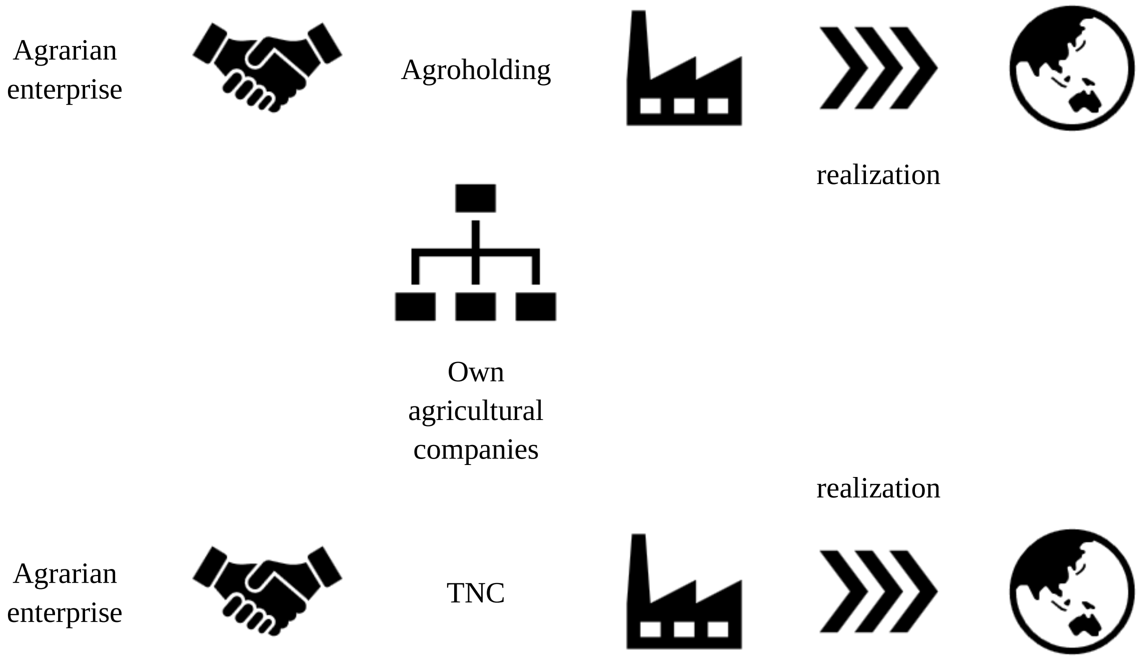

Fig. 1. Simplified scheme of functioning of the market of oil and fat products

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Source: authors’ research

In Ukraine, during the 2018/2019 marketing year (MY), 6.9 million tons of sunflower oil was produced, of which 79.7% was unrefined oil (Fig. 2), the rest being refined (Fig. 3).

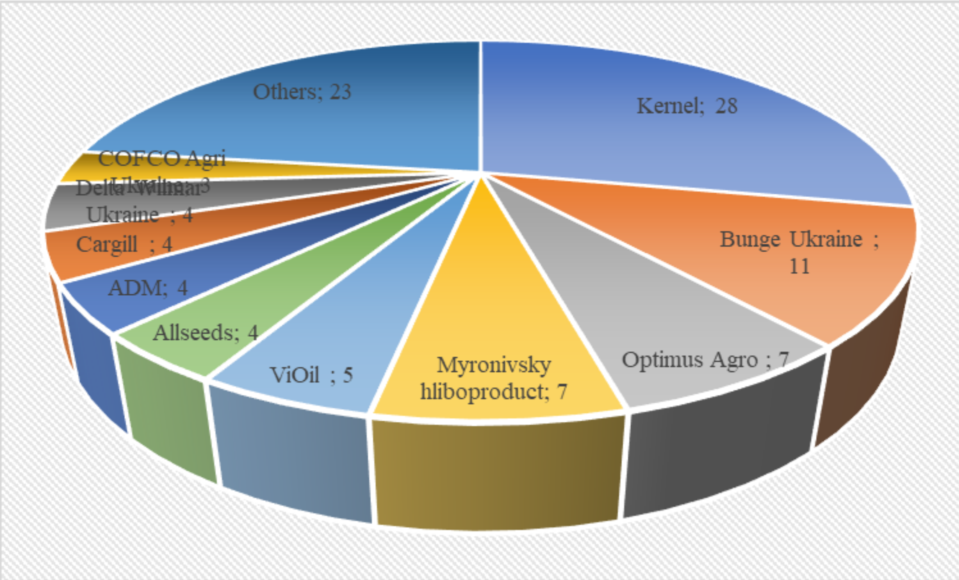

Fig. 2. Structure of the Ukrainian market of unrefined sunflower oil producers in 2018/2019 MY, %

Source: developed according to https://latifundist.com/novosti/46365-nazvany-top-10-ukrainskih-proizvoditelej-podsolnechnogo-masla

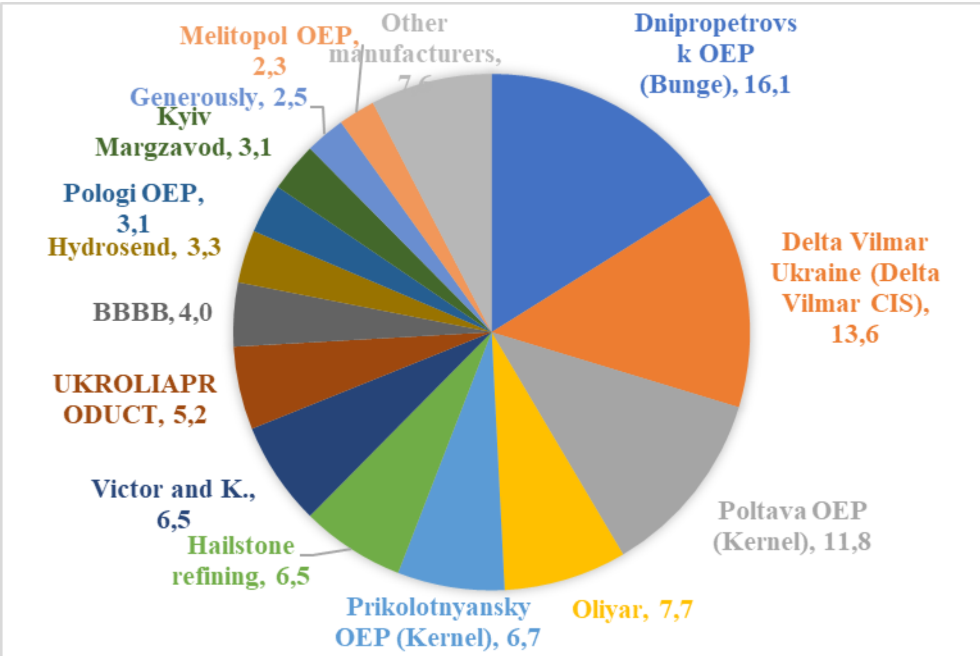

Fig. 3. Structure of companies producing refined sunflower oil in 2018/2019 MY, %

Source: developed according to http://agrocareer.com/news/2833/14-largest-producers-refined-sunflower-in-in-Ukraine.html.

At of the beginning of 2020, approxiamately 120 oil extraction plants with a total annual capacity of 23 million tons were registered and operated in Ukraine [10]. As 13.1 to 15 million tons of sunflower seeds were grown in 2019-2020, the occupancy rate was 57% and 65.2%, respectively. This lag was eliminated by the overloading of processing facilities with other oilseeds, including soybeans and rapeseed.

Kernel Group of Companies has been the market leader for a long time. The company's share is about 30% of the entire Ukrainian market. Currently, the company ranks first in the world in terms of processing sunflower seeds and exports of sunflower oil (about 8%). In total, the first four companies occupy half of the total market of unrefined sunflower oil, which is 2.81 million tons.

There are also global TNCs on the market: Bunge, Archer Daniels Midland Company, Cargill, Wilmar International Limited, COFCO (China National Cereals, Oils and Foodstuffs Corporation). The share of these companies in 2018/2019 MY were a quarter of the market for sunflower oil.

A general brief description of the largest producers of sunflower oil in Ukraine is given below (Table 2).

According to the results of the study, it is established that some companies in the oil and fat industry do not register trademarks and sell oil on the domestic market of Ukraine through trade networks. These companies sell products that are bulked or bottled either in the middle of the country or for exports. Since the price of sunflower oil exported is significantly higher than domestic rates, the vector of sales is focused on foreign countries.

According to research by Stark Shipping, in 2019/2020 MY 6.63 million tons of vegetable oil were exported by sea, of which 85.8% by tankers and 14.2% in containers. Interestingly, container traffic increased by 0.42 million tons during that year. It should be noted that oil exports accounts for 5% of all exports of Ukrainian products by sea, excluding container shipments [11].
The largest importers of sunflower oil in 2019/2020 MY countries were Asia and the EU, as shown in Fig. 4

Six traders engaged in exports accounted for four-fifths of the total market of sunflower oil (Fig. 5).

According to UkrAgroConsult experts, in 2019/2020 MY Ukrainian companies received foreign revenues of $ 7.3 billion from the export of oil and fat industry products [12], of which vegetable oils accounted for 72.3%. Sunflower oil was the leader, in the total export revenue of oil and fat products, with a share of 67.1% and also in part of all vegetable oils - 92.8%, respectively [11]. Ensuring 100% utilization of oil extraction plants is an important and difficult task, as the volume of products grown by domestic farmers is clearly insufficient. One way is to import sunflower seeds to Ukraine or incorporate them with other oilseeds.

2. Characteristics of the main producers of sunflower oil

Name of the Company	Processing capacity, thousand tons / day	Trademarks
Kernel	8,22	«Shchedryi Dar», «Stozhar», «Chumak Zolota», «Chumak Domashnia», «Liubonka»
Bunge Ukraine (part of Bunge Ltd.)	3,56	«Oleina», «Rozumnytsia», «Zolota Kraplynka»
OptimusAgro Trade	2,47	-
MHP	1,00*	-
ViOil	2,85	«Violiia»
Allseeds	2,20	-
ADM Trading Ukraine (part of Archer Daniels Midland Company)	1,32*	-
Cargill	1,40	«Purina», «Provimi»
Delta Wilmar Ukraine (part of Wilmar International Ltd)	1,70	-
COFCO Agri Resources Ukraine (part of COFCO)	1,50	-

* Calculated using the actual data for sunflower seeds processed.

Source: developed and calculated according to https://latifundist.com/.

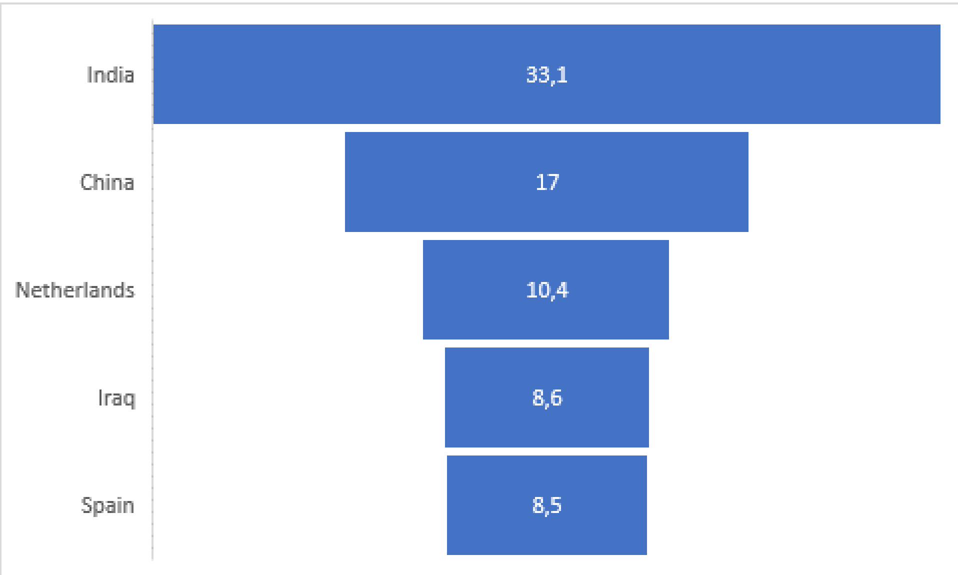

Fig. 5. The structure of sunflower oil exports in 2019/2020 MY, %

Source: based on data [11]

Most companies install equipment that can be recommissioned for processing rapeseed and soybeans. It should also be noted that increasing potential of the market of oil and fat products could intensify the industry, that is, cumulating the yield of sunflower oil content in seeds and implementation of projects for the construction of irrigation systems. However, these innovative solutions do not give tangible end results due to the instability of natural and climatic conditions for sunflower cultivation. Thus, the yield of sunflower varies significantly depending on the climatic zone (the lowest yield in the steppe regions (Odessa - 13.5 kg / ha), with the highest - in the Forest-Steppe (Sumy - 32.2 kg / ha). The issue of obtaining drought-resistant varieties and hybrids of sunflower in the steppe regions and the lack of sufficient moisture during the active phase of the plant's vegetation has not been resolved.

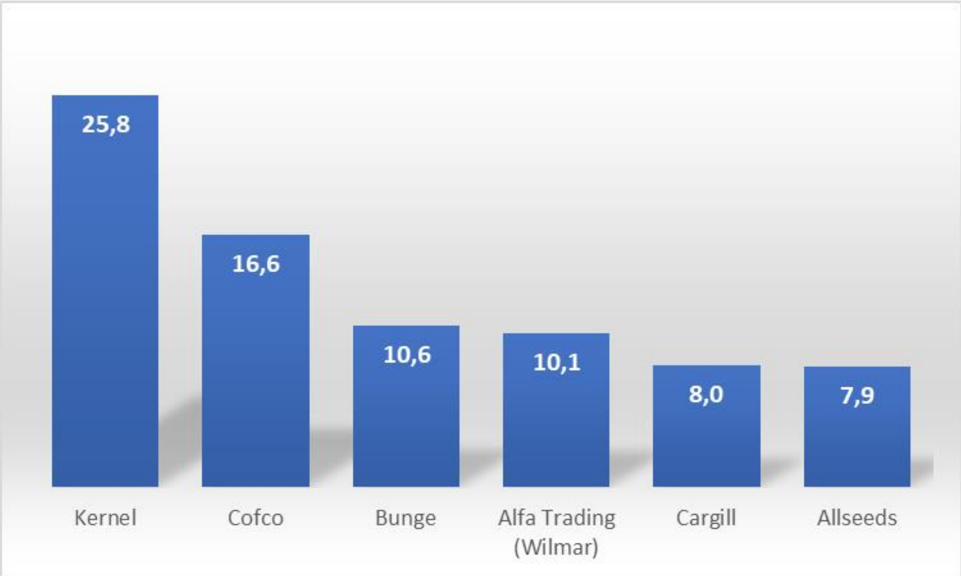

Fig. 5. Structure of the largest exporters of sunflower oil in 2019/2020 MY, %

Source: based on data [11]

Conclusions. In the modern world, Ukraine has a powerful agricultural cluster, among which we can distinguish the cultivation of sunflower and the production of sunflower oil. At present, Ukraine is leading in the production and sale of oil for export. In 2019/2020 MY Ukraine produced 7.9 million tons of sunflower oil, of which 91.1% were exports. The largest oil producers are Ukrainian holding companies and global TNCs operating in the Ukrainian market. It should be noted that through their branches, such companies are engaged in the export of manufactured products as well. Dynamically developing markets of Asia (India, China and Iraq) and the EU (Netherlands, Spain, etc.) are of great interest for Ukraine and accounts for more than 60%. In the future, the definition of the vector of development of the oil and fat industry should be based on the implementation of strategic decision-making that lead to strategic solutions which ensure maximum use of raw materials as determined by increasing sunflower yields and reduction of climatic factors.

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Nitsenko V.S., Hanzhurenko I.V., Ingram K.L. The potential for development of oil and fat industry enterprises. Ukraine is a world hub for the production and export of sunflower oil. Despite the general economic downturn, the oil and fat industry remains the most marginal among other agricultural sectors. This is evidenced by the constant increase in cultivated areas for oilseeds and sunflower in particular. In the structure of cultivated areas of oilseeds in 2020, sunflower accounted for 70.3%, in bulk yield - 58.9%. The main role in growing and further increasing the production of oilseeds belongs to agricultural enterprises, agricultural holdings and TNCs. And only a small share of agricultural holdings (Kernel and MHP) are engaged in providing raw materials for their own oil extraction plants, others should buy it at the market. They have a monopoly position in both the production and export of sunflower oil. Thus, in 2018/2019 it was produced 6.9 million tons of sunflower oil, of which 79.7% is unrefined oil, the rest is refined. As of the beginning of 2020, about 120 oil extraction plants with a total annual capacity of 23 million tons were registered and operated in Ukraine. As 15 and 13.1 million tons of sunflower seeds were grown in 2019-2020, the utilization rate was 65.2% and 57% respectively.

Key words: sunflower, vegetable oil, sunflower oil, agricultural holdings, TNCs, export, development potential.

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