

FUNCTIONING OF THE MARKET OF SOYBEAN IN UKRAINE

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Статтю отримано редакцією 10.06.2015 р.

Formulation of the problem. Today Ukraine ranks eighth in the world and first in Europe on indicators of sowing areas and production volumes of soybeans. Over the past 5 years, the area under soybeans increased significantly and soybeans ranked second among major oil crops. Market of soybean in Ukraine expanded its borders, gained signs of independence, continuing to build momentum. Soybean is among the most important global crop agriculture, she is grown on every continent, she is among the most common legumes and oilseeds, she crucial in cereals, foods and feeds balance sheets in many countries. The phenomenon of this culture is that, during the growing season it is synthesized two crops - protein and fat, as well as other biologically important organic compounds.

Soybean ranks first in the world production of vegetable oil, which is digested by the human body by 98%. She has anti-sclerotic property, reduce blood cholesterol, positive effect on brain function, improves eyesight. A based on soybean is produced milk, cheese, confectionery, flour for food, and so on.

Soybean enriches the soil with nitrogen and organic matter, adds arable layer phosphorus, potassium, calcium, improves soil structure and increases its fertility. Putting it in the rotation improves the water-physical, agro-chemical and biological properties of the soil increases its fertility and farming culture in general. Because soy is most desirable in crop in structure of rotation and its growing economic dimension is unconditional [11, p. 3-4].

The dynamics of the domestic soybean market, the popularize the cultivation of culture, diversification directions of consumption, growing demand for raw materials soybeans and soybean oil in domestic and foreign markets, increasing exports attracted attention as industry experts and academic economists.

Analysis of recent research and publications. An important contribution to the theory of the formation and functioning market of agricultural produce made is national scientists as P. Gaidutsky, P. Sabluk [1], Y. Lupenko [7], M. Malik, A. Shpykulyak [8], N. Pavlenchyk [9]. Various aspects of production and market functioning soybeans are devoted scientific work A. Chaliy [14] M. Tonyuk [13] A. Boyko [3] A. Pidlubna, S. Kantseba [10], V. Derevyanskiy [5], A. Burca [4]. Projections of main market trends soybeans have been the subject of research A. Bodnar [2], I. Konovalov [6]. Market of soybean in Ukraine - dynamic system, which is characterized by changes in the parameters and borders. In this connection market of soybeans is an interesting subject for scientific research that are able to provide information on recent transformation and prospects.

The purpose of the article – an analysis of production and consumption of soy, the price situation in the domestic soybean market, identify trends on the soybean market in Ukraine.

The results of the study. In Ukraine the main crops of soybeans on the results of 2013 focused in forest-steppe (66%), which formed "soybean belt." In the steppe and Polissya was located 19% and 15% of soybean crops respectively. A similarly is formed production structure of soybean - 65% gross yield achieved in agricultural enterprises zone steppe, 21% and 14% - in agricultural units steppe zone and Polissya (Fig. 1, 2).

Analysis of performance of soybean in terms of climatic zones of Ukraine showed dynamic growth. Expanding acreage in Ukraine amounted to 728.5 thous. Ha, or 2 times with 622.5 thous. Ha in 2009 to 1351 thous. Ha in 2013 (Table. 1).

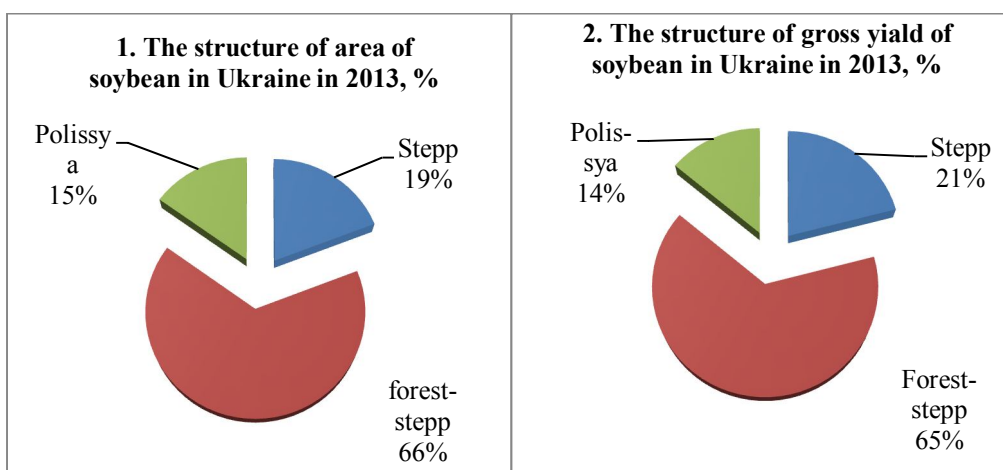


Table. 1

Dynamics of production performance of soybean in the climatic zones of Ukraine for 2009-2013.*

Climatic zones	2009	2010	2011	2012	2013	Changes, %
Gross yield, thousand t						
Step	356,0	520,0	641,5	563,3	585	164,3
Forest-step	607,5	1021,7	1435,4	1529,8	1790,5	294,7
Polesie	79,9	138,5	187,4	317,0	398,8	499,1
Ukraine	1043,5	1680,2	2264,4	2410,2	2774,3	265,9
Yield, c/ha						
Step	15,4	15,8	17,9	12,8	18,0	116,9
Forest-step	13,2	13,9	17,7	15,0	17,8	134,8
Polesie	12,8	13,9	15,0	18,0	17,7	138,3
Ukraine	16,8	16,2	20,4	17,1	20,5	122,0
Area, thous. Ha						
Step	175,5	262,3	282,9	342,	260,4	148,4
Forest-step	399,1	683,4	710,6	907,5	882,9	221,2
Polesie	47,9	90,9	116,84	162,8	207,7	433,6
Ukraine	622,5	1036,6	1110,3	1412,4	1351,0	217,0

* According to the State Statistics Service

The greatest rate of increase acreage was in the zone Polissya - from 47.9 thous. Ha to 207.7 thous. Ha, or 4.3 times. In 2.2 times increased acreage of soybean in forest-steppe zone - from 399.1 thous. Ha to 882.9 thous. ha. Relatively minor pace in 1.5 times increased area in the steppe zone - from 175.5 thous. Ha to 260.4 thous. Ha. A crop yield for the period increased from 16.8 c/ha to 20.5 c/ha, or 22%. The highest yield in 2013 in the steppe-zone - over 18 c/ha, in the area of steppe and Polissya - 17.7 c/ha. The highest growth rate of gross fixed charges in Polissya-zone - from 79.9 thous. T to 399 thous. T, or 5 times, much lower pace in forest-steppe zone - from 607.5 thous. T to 1.5 mln. T or 2.9 times, growth rates in the steppe zone were 1.6 times - from 607.5 thous. T to 1,7 mln. T.

Note that the tendency to increase soybean production performance is characterized by stability, stability and orderly growth throughout Ukraine, demonstrating a record every year.

The increase in gross yield of soybean in Ukraine over the past five years was from 1.04 million Tons to 2.8 mln. Tons, or 2.7 times. The highest growth rates (over 10 times) in agricultural enterprises are Khmelnytsky region, more than 4 times - Chernovtsy region, more than 3 times - Vinnitsa, Sumy and Zhitomir regions.

Leaders on the quantity of produced seeds soybean in Ukraine in 2013 are: Khmelnytsky (387.2 thousand tons), Poltava (305.7 ths. tons), Kyiv (301.2 thousand tons) region. Note that at the beginning of the study period in 2009 in three leaders on the quantity of produced seeds soybean included: Kherson (182.9 thousand tons), Poltava (180.7 ths. tons), Kyiv (123.5 thousand tons) (Tab. 2).

Table. 2

Dynamics of production of soybeans by regions leaders Ukraine for 2009-2013.*

Region	Gross yield, thousand t					Changes, %
	2009 p.	2010 p.	2011 p.	2012 p.	2013 p.	
Kirovograd	106,6	154,3	235,5	194,7	189,7	178,0
Kherson	182,9	259,8	282,8	269,6	300,6	164,4
Vinnitsa	68,8	158,3	211,7	198,2	229,3	333,3
Kiev	123,5	171,5	246,3	265,5	301,2	243,9
Poltava	180,7	222,7	332,3	258,5	305,7	169,2
Sumy	38,4	43,4	78,3	88,72	118,8	309,4
Khmelnitsky	38,2	138,9	180,4	302,2	387,2	1013,6
Cherkassy	79,1	111,3	174,8	194,0	189,3	239,3
Chernovtsy	27,4	77,8	88,4	82,0	111,6	407,3
Zhitomir	41,6	66,2	70,6	139,9	161,3	387,7
Other	156,3	276	363,3	416,8	479,6	306,8
Ukraine	1043,5	1680,2	2264,4	2410,2	2774,3	265,8

* Calculated according to the State Statistics Service

The rapid and stable growth of gross fees of soybean in Ukraine is explained mainly by growth of average soybean yield in the last 5 years in Ukraine on 35% from 16.8 to 20.5 c/ha. For example, the average yield of soybeans in 2000 was about 10 c/ha, which is less than the double than in 2013. The highest level of soybean yield in 2013 reached in the Kherson region at the level of 34.4 c/ha at sowing area of 87.3 thousand hectares, in the second position - Zaporozhe region with the index of 28.3 c/ha (on area of 7.3 thousand hectares), the third position - Cherkassy region - 19.3 c/ha (soybean acreage is 98 thousand. ha). But this is not the maximum capacity of this culture. Today in the Register of plant varieties suitable for dissemination in Ukraine there are 180 varieties of soybeans, of which 70% - the national selection. The genetic potential of modern is varieties of soybeans - 40-50 c/ha. Apparently, the excess over the actual figure is up to 2 times and in this is the enormous reserve for increased production.

Consumption soy in Ukraine carried out in directions: export and processing of soybean oil. The proposal on market of soybean is formed by domestic production because an import of oilseeds has significant volumes. Imported is exclusively seed. Over the past three years there have been, in our view, positive changes in the structure of consumption toward soybean processing. Thus, in 2013 were exported 1.5 million tons of soybeans, or 54.8% of total consumption to 1.3 mln. Tons of soybeans, or 67.5% in 2011. As you can see, export growth declined. In 2013 focused on the processing of 950 ths. Tons of soybean, which is twice more compared to 482 ths. Tons in 2011. On seed send about 8% of the volume of soybean - from 162 thousand. Tons in 2009 to 187 ths. Tons in 2013 (Tab. 3).

Table. 3

Dynamics of soybean consumption in Ukraine in 2011-2013. *

Destination consumption	Years			Structure, %			Growth rates	
	2011	2012	2013	2011	2012	2013	%	+;-
Processing of oil, th. Tons	482	580	950	24,3	25,5	37,8	197,1	468,0
Seeds, ths. Tons	162	198	187	8,2	8,7	7,4	115,1	25,0
Exports, thousand. T	1338	1500	1380	67,5	65,8	54,8	103,1	42,0
Total:	1982	2278	2517	100,0	100,0	100,	127,0	535,0

* Calculated according to IA "APK-Inform".

Thus, the main line of soybean consumption today - is exported. The geography of deliveries Ukrainian soybean is quite broad. Today exports carried out in 46 countries, in 2004 - was 8 countries. The largest importers of soybeans in 2013 were: Turkey (27%), Iran (17%), Egypt (15%), Greece (7%), Italy (5%), the share of the first three buyers had to almost 60 % of total exports of soybean [4, p. 123]. Export of soybean consumption trend, as a rapeseed, partially explained due to the lack of protective mechanism in the form of export duty, acting on sunflower 10%, and in his time and made a "reorientation" of sunflower seed exports in production of product with added value.

Growth of volume of soybean contributes to growth offer processed products - oil and meal. Soybean processing plant producing processed soy - oil, meal, concentrate and others. In the overall structure of feed consumption of soybean meal takes 23% (sunflower - 76%, rapeseed - 1%). During 2013 produced 703 ths. Tons of soybean meal, of which 86 ths. Tons exported. A countries exporter is Russia (33%), Belarus (22%) and Turkey (19%).

The main consumer of soybean meal and cake is manufacturers of animal feed. Production capacity feed mill in Ukraine can produce 12-15 million tons a year, but they are not fully loaded. Leading manufacturers of animal feed - Katerinopolsky elevator (Cherkassy region), Myronivsky plant cereals and animal feed (Kyiv region), Agromars complex (Kyiv region), Tavria JSC «Myronivsky plant cereals and animal feed" (Kherson region), Boryspil EKKZ (Kyiv region), Feonis (Donetsk region). High demand at soybean oil on foreign markets. Last year produced 142 ths. Tons, including 115 thousand. Tons exported. An export country is Poland (45%) and Spain (20%). The main processing-power of soybean into the oil is concentrated in the area of main production. Thus, in the Kirovograd region produced 31 thousand. Tons of soybean oil, in the Kherson region - 20.6 ths. Tons, Poltava region - 18 ths. Tons, in Zaporozhe region - 14.3 ths. Tons. The largest enterprises-processors of soybeans in Ukraine in 2013: AO Globinsky factory "Globus" (27% of the total), Gaysynskiy branch Theeuwes Holding "Thegra Ukraine LTD" (23%), complex "Dniprovsky" (6%), "Protein production" (6%), the Company "System" (6%) [4, p. 121].

Build-up domestic soybean processing viewed as a positive trend, because in the end there is a corresponding reduction in dependence on imported meal and increasing demand of livestock farms to soybean meal. Thus, by 2009 Ukraine was importing soybean meal, but during 2009-2013 by increasing the processing of soybean meal imports to Ukraine dropped 15 times - from 79.7 to 6.1 thousand Tons. The export of soybean meal for the period increased by almost 12 times to 14.8 thousand t.

One of the most powerful factors increase soybean production in Ukraine is price. The analysis of the average maximum and minimum prices commodity on soybean in the domestic market over the past five years showed a systematic increase in the minimum price of 1750 UAH/t in 2009 to 3650 UAH/t in 2013 and fluctuations maximum prices 3700 -5800 UAH/t (Fig. 3).

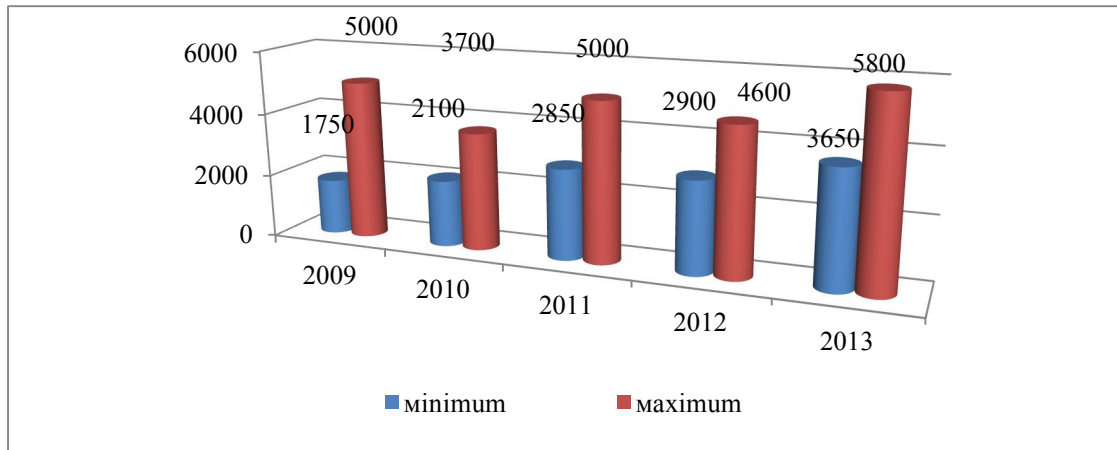


Fig.3. Pricing positions demand (minimum and maximum) in the domestic market for soy 2009-2013., USD / t with VAT (according to IA "APK-Inform")

Note that the price position on soybeans on the agricultural market compared to price items for sunflower and rapeseed are higher and is therefore more profitable for farmers. Yes, the prices of sunflower on agricultural markets over the last three years recorded within 2900-3450 UAH/t (minimum) and 4800-5000 UAH/t (max) [16, p. 73-74], the fixed trend of decline on rapeseed from 3900 to 3100 UAH/t (min) and from 4900 to 4400 UAH/t (max). Thus, in 2013 the price of soybeans exceeded the price of sunflower to 750-800 UAH/t, rapeseed – to 550- 1400 UAH/t.

The analysis of the maximum and minimum prices demand of porters on soybean for the past five years showed a systematic increase in the minimum price of 1800 UAH/t in 2009 to 3500 UAH/t in 2013 and fluctuations maximum prices in limit 3400 -4750 UAH/t (Fig. 4).

Comparison of prices in Fig. 3 and Fig. 4 showed the excess position for exporters during 2009-2012 and the prevalence of domestic procurement prices in 2013, which were the exception and the

result of changes in market conditions in the soybean segment of consumer trends. It was in 2013, there was a decline in exports by 120 ths. Tons, or 8% and increase volumes of oil to 370 ths. Tons, or by 63.8%.

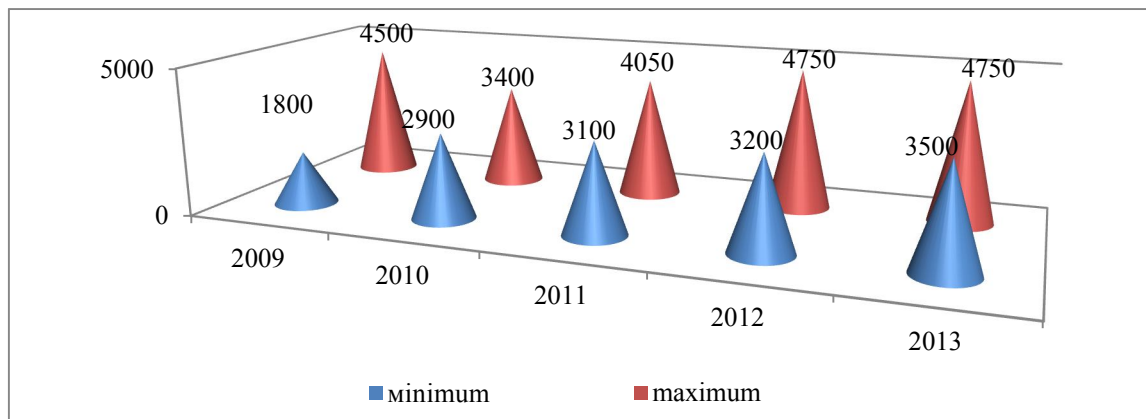


Fig.4. Export Price position in the market demand for soybean 2009-2013, USD/t with VAT (according to IA "APK-Inform")

Overall, the increase in the weighted average market price of soybeans in the last 5 years at 275 UAH for 1 ton (from 4150 to 4425 UAH/t) can be considered low compared to other oilseeds. Dynamics of prices on the market of soybeans is positive with a trend to increase. Regarding market prospects soybeans, the analysis of the expert's gives reason from believe a further increase production by expanding acreage, increased productivity, increased demand for world and domestic agricultural market.

The increase of soybean acreage in Ukraine contribute to the following factors: it not depletes the earth, but increases its fertility, enriching organic nitrogen, cleans field of weeds; this culture is almost not amazed disease and has virtually no pests, so it can be grown on the same land for several years; soy products similar cheaper meat and milk; high protein content in soybean grain and its composition make soy indispensable component in the diets of feeding cattle, poultry and fish; it is highly profitable culture [15, p. 75].

The increasing soybean production will enable to process large quantities at specialized factories, which greatly improve the quality of soybean products and refuse in future from imports [14]. Ukraine has great potential of the development of the European market not genetically modified soybeans, demand for which is growing steadily in the EU.

According to forecasts experts, the market of soybean in the short term for the current year is projected output of 2.8 mln. Tons, exports of soybean - to 2.3 mln. Tons [6]. In the coming 5 years Ukraine may increase soybean production to 4.2 mln. Tons, of processing - to 1.05 mln. Tons, export - to 2.2 mln. Tons [4, p. 123].

Conclusions and recommendations for further research. Studies of major trends the market of soybeans in Ukraine allowed to find out, that it is the fastest growing in market of oilseeds, is perspective in the long time, specializing in the export of soybean seeds and soybean oil, characterized by growing price positions on soybeans and products of soybean.

Further investigations of the domestic market of soybean are associated with increasing production volumes soybean in Ukraine, changing consumption trends in favor of soybean products with increased added value, with the highest yield among oilseed crops, increasing demand for raw materials from processing, the expansion of crops the soybean throughout Ukraine.

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UDC 658.8. 012.12:633.85

Chekhov Sergey, candidate of economic sciences, Head of Experimental Station of rare and aromatic crops NAAS. **Functioning of the market of soybean in Ukraine.** The analysis of production and consumption of soybean in the domestic agricultural market in the climatic zones and regions of Ukraine, the dynamics of the price situation, the forecast for its further development.

Key words: market of soybean, soybean production, soybean consumption trends, products of soybean, the price of soybean.

УДК 658.8. 012.12:633.85

Чехов Сергій Анатолійович, кандидат економічних наук, кандидат економічних наук, Директор Дослідної станції ефіроолійних та малопоширених сільськогосподарських культур НААН. **Функціонування ринку сої в Україні.** Представлено аналіз показників виробництва та споживання сої на вітчизняному аграрному ринку за природно-кліматичними зонами, областями України, динаміки цінової кон'юнктури, прогноз подальшого його розвитку.

Ключові слова: ринок сої, виробництво сої, напрямки споживання сої, продукти переробки, цінові позиції сої.

УДК 658.8. 012.12:633.85

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Ключевые слова: рынок сои, производство сои, направления потребления сои, продукты переработки, ценовые позиции сои.