

РОЗВИТОК ПРОДУКТИВНИХ СИЛ І РЕГІОНАЛЬНА ЕКОНОМІКА

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MANUFACTURE TECHNICAL SUPPLY ORGANIZATION IN FARM ENTERPRISES OF ZAPORIZHZHYA REGION

Summary. A farm enterprise is an equal right participant of the agrarian market. The analysis of organization-legal forms in the agrarian sector of economy in Zaporizhzhya region has shown the great number of farm enterprises. In 2014 in Zaporizhzhya region among 2987 of economic entities in agriculture the farm enterprises makes up the biggest part – there are 2312 or 77.4 % of total quantity. Farm enterprises are of great importance in the development of agribusiness in the region. Today the majority of farm enterprises in Ukraine are in bad financial situation. Most of the farmers who have small areas are not able to organize the efficient manufacture of competitive agricultural production due to the lack of necessary machinery. But manufacture processes technical supply level is lower in farm enterprises of Zaporizhzhya region than s a whole in Ukraine. For instance, tractor fleet for 1000 ha of arable area in the region farm enterprises for the analyzed period has decreased by 19.2%. It is more reasonable to form farmers' technical fleet at the level of standard demand. According to our calculations the tractors' demand is 6806 units in farm enterprises of Zaporizhzhya region, demand for grain combine harvesters is 1455 units. At the same time the availability of tractors is 34.5% from the demand, for grain combine harvesters is 42.5 %. As most of farm enterprises which cannot afford to purchase machinery on their own, it is more reasonable to set up the system of cooperative servicing technical formations.

Keywords: farm enterprise, servicing cooperative, technical supply.

Formulation of the problem. The food problem solution in the conditions of rapid scientific-technical progress depends on the level of agro-industrial manufacture and efficient resource supply. But majority of agricultural enterprises cannot replace machine-tractor fleet, as it requires big investments. The worst situation is for farm enterprises which cannot afford to purchase the complex and expensive equipment. So there is the necessity of researching the ways of farm enterprises' technical supply improving.

Analysis of recent research and publications. Ya.K. Bilous'ko, V.G. Bil'skyi, P.A. Denysenko, P.M. Makarenko, G.M. Pidlisetskyi, V.O. Pytul'ko, P.T. Sabluk, V.S. Shebanin, V.Y. Shuyan and others made great contributions into the development of scientific-theoretic and economic problems of technical supply in agrarian sector at different time. However, not enough attention was paid to the technical supply of a particular region.

Article objective. The article objective is the studying the actual status of technical

supply of farm enterprises in Zaporizhzhya region and determination of measures aimed at technical supply system organization in the branch.

Results. Farming plays an important role in developing the commercial foundations and entrepreneurship in agribusiness. A farm enterprise is an equal right participant of the agrarian market. By 2015 the number of registered farm enterprises in Ukraine was 39428 [6]. The analysis of organization-legal forms in the agrarian sector of economy in Zaporizhzhya region has shown the great number of farm enterprises. For instance, in 2014 in Zaporizhzhya region among 2987 of economic entities in agriculture the farm enterprises makes up the biggest part – there are 2312 or 77.4 % of total quantity. As on 01.01.2015 the area of farmland is 388.6 thousand ha of cultivated land. The area of farm land-use has increased correspondingly (Table 1).

Table 1

Development of farm enterprises in Zaporizhzhya region

(by the year end)

Index	2000 year	2010 year	2011 year	2013 year	2014 year	2014 year in % to	
						2000 year	2010ye ar
Farm enterprise quantity, entities	2191	2283	2299	2332	2312	105,5	101,3
Cultivated land area, thousand ha	172,1	338,6	350,2	352,4	388,6	225,8	114,7
including, arable land	165,1	331	343	340,2	374,2	226,6	113,0
For one farm enterprise, ha -cultivated land	78,6	148,3	153	151,1	168,1	213,8	113,3
- arable area	75,4	145,0	149,8	145,9	161,8	214,6	111,6
Percentage of farm enterprises in the total cultivated land, %	7,7	14,0	15,6	14,9	18,2	236,3	130,0

Source: calculated according to the data of Statistics Board in Zaporizhzhya region

Farm enterprises are of great importance in the development of agribusiness in the region. 5794 thousand people work at enterprises; that is 23.1% from the total number of employees in agriculture. The main activity of farm enterprises is crop production. In 2014 gross production of farm enterprises in the region was 934.8 mln hryvnas; that is 10.1% from the total cost of the region agriculture gross production. The share of grain production by farm enterprises was 18.2%, sunflower – 18.5%, vegetables – 3.6% to the volume of agricultural enterprises in the region. In 2014 the farm enterprises of Zaporizhzhya region sold the production for the amount of 1281,8 million hryvnas via all channels. Breakeven level of agricultural activity of farm enterprises is 2.4 points higher by this index value for agricultural enterprises and it is 25.5%.

Present-day state of business has created a lot of difficulties in agribusiness. Today the majority of farm enterprises in Ukraine are in bad financial situation. Like other agricultural manufacturers, one of the important problems of farm enterprise development is its technical supply. This can be observed in those enterprises which have small areas. Due to not big production volumes the farm enterprises cannot afford expansion and replacement of fixed assets at the expense of their own sources.

The quantity of key machinery in farm enterprises in Zaporizhzhya region increased during 2000-2014 years, in particular tractors – by 14.6%; grain combine-harvesters by 2.8

times (Table 2). But manufacture processes technical supply level is lower in farm enterprises of Zaporizhzhya region than s a whole in Ukraine.

Technical capability level lowering of enterprises has caused the out-of-time and non-quality implementation of key mechanized works and complete non-fulfillment in many cases. As a result, it causes crop yield decrease, grown production losses increase, reduction of gross and areas under crops.

Tractor fleet for 1000 ha of arable area in the region farm enterprises for the analyzed period has decreased by 19.2%. If in 2000 there were 7.8 tractors for a thousand ha, then in 2014 there were only 6.3. It is more reasonable to form farmers' technical fleet at the level of standard demand. In Table 3 there are calculations of machinery demand for farm enterprises in Zaporizhzhya region.

According to the data of Table 3 we could see that the tractors' demand is 6806 units in farm enterprises of Zaporizhzhya region, demand for grain combine harvesters is 1455 units. At the same time the availability of tractors is 34.5% from the demand, for grain combine harvesters is 42.5 %.

It should be mentioned that agricultural enterprises of highly developed foreign countries are provided with grain combine harvesters at much higher level. For instance, in Poland there are 93 tractors for 1000 hectares of arable land, in Germany – 87.4 units, in France – 68.8 units, in the UK – 84.7 units [5].

Table 2

Dynamics of tractor and grain combine harvester quantity in different organization-legal entities of Zaporizhzhya region, entities

(by year end; entities)

Years	Total	Agricultural enterprises	Farm enterprises	People's households
Tractors				
2000	18432	13671	1294	3467
2010	15687	8525	2047	5115
2012	15829	8276	2185	5368
2013	15880	8191	2185	5504
2014	15713	8089	2347	5277
2014 year to: 2000 year,%	85,2	59,1	181,4	155,1
2010 year,%	100,2	94,9	114,6	105,1
Grain combine harvesters				
2000	2697	2477	220	
2010	3199	1983	522	694
2012	3390	1998	589	803
2013	3339	1928	598	813
2014	3346	1912	618	816
2014 year to: 2000 year,%	124,1	77,2	280,9	
2010 year,%	104,6	96,4	118,4	117,6

Source: calculated according to the data of Statistics Board in Zaporizhzhya region

Таблиця 3

Machinery demand calculations for farm enterprises in Zaporizhzhya region

Index	Tractors	Grain combine harvester
Availability, units	2347	618
Farming land area, thousand hectares	388,6	-
Grain and pulse crops area, thousand hryvnas	-	184,8
Availability for 1000 farming lands, units	6,0	-
Availability for 1000 hectares of grain and pulse crops, units	-	3,4
Process requirement standard for 1000 hectares of farming lands, units	17,5	-
Process requirement standard for 1000 hectares of crops, units	-	7,89
Deviation of actual provision from standard one, units	-11,5	-4,49
Actual load for one equipment unit, hectares	165,6	299
Standard load for one machinery unit, hectares	57,1	127
Deviation of actual load from standard one, hectares	108,5	172
Demand, units (actual load for one machinery unit/ standard load for one machinery unit x actual machinery availability)	6806	1455

Source: calculated according to the data of Statistics Board in Zaporizhzhya region

Supply with grain combine harvesters in Canada is 8.3 units for 1000 hectares, in Italy – 16.2 units, in the UK – 14.5 units, in Austria – 23.6 units, in France – 13.3 units, in the USA – 25.8 units, in Germany – 20.6 units, in Brazil – 8.8 [1].

Nowadays, in most cases farm enterprises are solving their problems with agricultural machinery on their own during the manufacture process. They can hire the machinery of other organizations and offer their own facilities for temporary use after finishing their own agricultural works.

For the purpose of renovation and usage of agricultural machinery, rental and hire it is necessary to organize farmers' cooperation. In present situation the experience of foreign countries with multi-function farming cooperatives is worthwhile. In the countries like Germany, France and the USA from 20% to 70% of farm enterprises are involved with different forms of cooperation for purchasing, joint using and maintenance of machinery [1, p.86].

For the farmers with low level of technical supply it is more reasonable to set up the system of cooperative servicing technical formations.

The cooperative on machinery joint usage is a group of agriculture manufacturers who have decided to share the property assets and joint use of the machinery which they would not be able to use at full capacity individually or purchase at their own expense [2, p. 126].

Depending on the type of servicing cooperative or other association for the joint use of agricultural machinery the economic relations among them and agricultural manufacturers should be built differently. The successful operating of farming and inter-farm servicing machinery-technological cooperative formations significantly depend on the applied economic mechanism of relationship of a cooperative and its members. The main principles of such mechanism have to be drawn

up out of break-even activity of the established cooperation. Profit from work implementation and service to outside consumers has to be distributed among the cooperative members with the account of their share in labor participation.

For setting up the inter-farm enterprises and other formations the relationship is built under the similar conditions. In the cases when by agreement on joint usage of technical facilities the special servicing formations' setting up and machinery proprietorship form change are not required. It is recommended to clear payments among service consumers on the basis of work volumes and cost completion set-off. In case of un-matching the over-expenses should be compensated with money or manufactured production. Such type of relationship is characterized as neighbor mutual help.

Conclusions. Thus, we could affirm that the farm enterprises are having problems connected with poor technical supply, in particular the lack of powerful transport facilities for work completion. Today the majority of farm enterprises cannot afford it without assistance. In such situation the technical facilities' cooperation for their joint usage by farm enterprises is one of the most efficient ways of production manufacture technological processes' mechanization supply at present-day conditions.

Literature:

1. Bilous'lo Ya.K. Tendencies and trends of technical-technological supply of agribusiness development/ Ya. K. Bilous'ko// Agroikom: Agrarian Information Scientific-Industrial Journal. – K.: Agroprominvestinternational. – 2007. - №5/6. – pp.46-51.
2. Blok R. Agricultural servicing cooperatives: practice textbook/ R. Blok, V.V. Goncharenko, V.V. Zinovchuk and others. – K.: Urozhay, 2001. – 288p.
3. Kozhushko I.G. Problems of technical supply of farm and individual agriculture households in the region / I.G. Kozhushko // Materials of International Scientific-Practical Internet-Conference "Agrarian Science of XXI century: realias and perspectives". Dnipropetrovsk, 1-4 March. – Ministry of Agrarian Policy and Food of Ukraine: Dnipropetrovsk State Agricultural University, 2011. – Vol.1. – pp.46-48.
4. Makarenko P.M. Economic renovation of agribusiness in the context of market: Monograph /P.M. Makarenko, T.V. Popova. – Melitopol: Publishing company "Lux". – 2011. – 348 p.
5. Marchenko V.V. Agriculture machinery market. Forming peculiarities and perspectives of agriculture machinery market in Ukraine / V.V. Marchenko, M.V. Guz' // Agricultural technique news. – 2010. - №1. – p.26.
6. Official site of Ukraine's State Committee of Statistics [Electronic resource]. – Access: <http://www.ukrstat.gov.ua/>
7. Official site of State Committee of Statistics in Zaporizhzhya region [Electronic resource]. – Access: <http://www.zp.ukrstat.gov.ua/>
8. Pidlisetskyi G.M. Agriculture machinery market: problems of forming / G.M. Pidlisetskyi. – K.: SEC "Agrarian Economics Institute", 2005. – 214p.