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Анотація. У даній статті представлені принципи створення та функціонування кооперативів, коротко описується історія і розвиток молочних кооперативів у розвинених країнах, з особливим акцентом на досвід Сполучених Штатів Америки. Автор статті відзначає важливість вивчення та адаптації досвіду функціонування кооперативів у молокопродуктовому підкомплексі США.

Ключові слова: молочна промисловість, кооперативний підхід, молочарські кооперативи, молочні продукти, виробництво молока, продуктивність, конкурентоспроможність.

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Legeza Darya G.,
Doctor of economic sciences, Associate Professor
Kulich Tatyana V.,
Ph.D., Associate Professor
Tavria State Agrotechnological University

ESTABLISHMENT OF THE REGIONAL CENTRE FOR TECHNICAL SERVICE AND MONITORING OF EXPLOITATION OF AGRICULTURAL MACHINERY

Abstract. The expediency of establishing the regional center of technical service and monitoring of exploitation agricultural machinery is grounded. Objectives, economic features of the project and monitoring are set. Methodology of monitoring of exploitation in the center is proposed.

Keywords. Agricultural machinery, technical service, maintenance, repair.

Statement of the problem. Providing of technological needs for agricultural production by modern means of mechanization of production processes is one of the most difficult problems of the agricultural sector of the economy to out from the crisis. From year to year the amount of equipment, which is required to perform the basic process, in the agricultural enterprises of Ukraine, in particular the Zaporozhe region is reduced. Technical service does not meet modern conditions of agricultural production. Today, agricultural equipment is written off nearly half of what is necessary to write off according to standard of their exploitation. As a result, the load on the main types of equipment significantly increased, it is not possible to carry out all technological operations in due time. In this regard, companies bear the additional cost of repairs and payment services.

The economic situation of farms is causing the problem of radical renewal of their material-technical base in the near future. So the priority of technical policy now stop the process of reducing of a huge existing tractor fleet and update the material and technical base and service support. Only respectively organized technical service of farms can maintain agricultural equipment in working order and to use it effectively. It should cover all stages of exploitation of agriculture machine: purchase, service, operations, maintenance, repair, write-off and disposal.

Analysis of the recent research and publications. Problems of economics and engineering services at agriculture are revealed in the scientific articles of many agricultural scientists. Articles of such authors as V. Belskiy, M. Goryachkin, Y. Konkin, G. Kosachev, V. Kotelyanets, M. Loza, V. Pitulko, B. Seredenko, M. Sinyukov are dedicated to developing theoretical and practical aspects, the determining the methods effective use of technical means.

Most scientific works of the authors are connected with questions of organization of supply chain management and logistics. Fecundity of scientific and practical results in the improvement of maintenance and engineering in agricultural production is certain. However, there are insufficient disclosure issues that are related with the research of the problem as unified coherent system of technical and technological support in agriculture. In conditions of imperfect logistics research,

improving the organization of technical services and monitoring of agricultural machinery are relevant.

Statement of the article (purpose of article) is to validate the introduction of advanced production methods of service, maintenance and monitoring of the effective use of tractors, combines and other agricultural machinery complex that is able to increase the effectiveness of their use.

Statement of the research. Farms of Zaporozhe region, as in Ukraine at all, operate in conditions of the economic instability, disruption of production relations, inflation, declining of purchasing power and sharp budget cuts for agriculture, increasing disparity in prices for agricultural resources, which reduces their profitability. As a result, the resources of farms have been depleted not only for the modernization of material and technical base, but also for restore production capacity.

During reformation period, simple reproduction of agricultural machinery has stopped, it hasn't been growth. The volume of purchased equipment was reduced in twice in 2009-2012 years and for some types of equipment in three times. In 2009 year on the Zaporozhe region the level of providing technological needs was: tractors – 26.7%, grain harvesters – 37.8%, corn harvester – 53.3%, forage harvesters – 58.8%, seeders – 74.4%, reapers - 39%. A similar situation exists for other farm machinery (Table 1).

Insufficient provision of farms causes to yield losses. Due to lack agricultural machinery, losses of grain in the last technological process of harvesting come up to 28% of the biological yield. There is trend of reducing equipment per hectare of arable land by all types of agricultural machinery. Burden on arable land reduces in twice.

Saving of the quantitative complex of machines and tractors can be achieved by repair with simultaneous modernization of equipment. It will reduce the disposal machinery after exploitation on 30-40% and have possibility to use it in agriculture for another 5-6 years. Therefore, project grounding of the center for technical service and monitoring at regional level as appropriate.

Provision of farms by agricultural machinery in Zaporozhe region

Feature	Year						2012 to compare with 2000 (%)
	2000	2005	2009	2010	2011	2012	
Amount of conditional tractors per 100 Ha of arable land, No	1,2	1,1	0,9	0,83	0,6	0,5	41,6
Area of arable land per 1 conditional tractor, Ha	84,1	94,0	110,9	120,6	177,	184,2	219
Amount of combine harvesters per 100 ha of area harvested, No	0,6	0,5	0,3	0,3	0,2	0,26	43,4
Area of grain harvested land per 1 grain combine harvester, Ha	167,9	191,4	309,1	298,7	377,9	381,8	227,4
Per 100 tractors, No							
ploughs	45,0	43,6	41,5	40,0	38,8	36,5	81,1
cultivators	70,0	64,6	63,2	56,9	65,7	62,4	89,1
seeders	57,6	52,6	46,4	41,8	59,1	60,0	104,2
reaper	20,5	17,8	13,0	10,2	14,4	14,0	68,3

Center for technical service and monitoring reckon for service of agricultural enterprises and other producers of Melitopolskiy, Akimovskiy, Veselovskiy, Mihailovskiy regions. The focus of the project is to improve product quality, energy savings, reduce wear reserves, increasing productivity.

Objectives of the project are:

- to substantiate establishing a center for technical service of agricultural machinery;
- to identify tools for monitoring of agricultural machinery for continuous analysis of market conditions and provide technical operations;
- to identify of the optimal location of the center of technical service;
- to identify the functions of a center for service and monitoring;
- to do market research technical services in agricultural production;

- to set price of technical services;
- to research feasibility for the establishment of technical service center;
- to identify sources of funding of the project;
- to develop of the schedule of the center of technical service of agricultural machinery.

Economic indicators of the project:

1. Payback service center;
2. Cost of establishment and monitoring of the service center, UAN;
3. Costs for the purchase of diagnostic equipment, UAN;
4. Costs for the purchase of equipment for repair and maintenance, UAN;
5. Number of users of services, No;
6. Volumes maintenance, No;
7. Costs of services by type of repairs, and brands of agricultural machinery, UAN;
8. Profit, UAN;
9. Profitability of services, %;

For the feasibility study it should:

- to conduct a analysis of farms as potential consumers of the center;
- to determine the types and amount of technical services in the center;
- to monitor the prices of equipment and components;
- to calculate the cost of services by type of repairs and brands of agricultural machinery;
- to set price for services by type of repairs and brands of agricultural machinery;
- to calculate the feasibility of establishing a center for technical service and monitoring.

In the future, the center will reckon for monitoring of agricultural equipment in the following areas:

- analysis of the manufacturing operations to ensure the means of mechanization of agricultural production;

- periodic review of the market of agricultural machinery, equipment and components;
- analysis of the volume and structure of demand for service;
- analysis of the quality of maintenance services;
- recommendations producers to improve efficiency of operation of technical equipment and technological systems.

The methodology of the monitoring in the center will occur by following parameters and schedule:

- each year, on the 1st of January: volumes of planned overhaul, utilization, index of equipment availability;
- twice per year, on the 1st of September and the 1st of March: index of tractors availability, planned repair costs, the availability of equipment for seeding land;
- quarterly on the 1st of December, the 1st of March, the 1st of July and the 1st of September: price of equipment from different vendors, volume of services by competitors, number of consumers of the center;
- every month on the 1st date of month: performance of tractor per conditional hectare, number of repairs which are carried out, price of the equipment, cost of components, repair costs, which are conducted at farm, and costs for center operation by necessary components.

Conclusions. Establishment of regional centre for technical service and monitoring of agricultural machinery will allow producers to reduce the cost of repair of equipment by 25%, to increase production capacity by 5%, to improve the quality of commercial products by 20% and to save fuel by 12%.

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***Анотація.** Обґрунтовано доцільність створення регіонального центру технічного сервісу та моніторингу експлуатації сільськогосподарської техніки; визначено завдання, економічні характеристики проекту та напрямки моніторингу експлуатації сільськогосподарської техніки; запропонована методика проведення моніторингу у центрі.*

***Ключові слова.** Сільськогосподарська техніка, технічний сервіс, технічне обслуговування, ремонт.*

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Алексеев С.А.,
аспірант ГНУ Всероссийского научно-исследовательского
института экономики сельского хозяйства

ПРОИЗВОДСТВО КУКУРУЗЫ КАК ФАКТОР РАЗВИТИЯ РЫНКА ФУРАЖНОГО ЗЕРНА

***Аннотация.** Автором раскрыты особенности производства кукурузы в Российской Федерации, США, Западной Европе. Дана оценка эффективности производства кукурузы в сельскохозяйственных организациях, размещению посевных площадей под этой культурой, предложены пути ускоренного наращивания производства с целью обеспечения отрасли животноводства одним из видов высокоэнергетического корма.*

***Ключевые слова:** фуражное зерно, посевная площадь, мировые производители кукурузы, кормовая культура, валовой сбор, урожайность, реализация, себестоимость, цена реализации, товарность.*

Мировой рынок фуражного зерна представлен преимущественно кукурузой, кормовой пшеницей, ячменем. При этом кукурузе принадлежит ведущая роль как в зернофуражном балансе, так и в мировой торговле благодаря ее высокой продуктивности и разностороннему использованию.