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TECHNOLOGY TRANSFER AS ONE OF THE WAYS OF MODERNIZATION IN THE PRODUCTION SECTOR OF AIC

Abstract. Creation of innovative infrastructure on the basis of scientific institutions (agricultural parks, technology transfer centers, business incubators, etc.) will make it possible to more fully use the scientific potential of the agricultural sector. Technology transfer is carried out both in non-profit and in commercial forms. Non-proprietary information accounts for the main stream of transfer in a non-commercial form, often this is accompanied by low costs and is often supported by the state line, or through company and personal contacts. By itself, the TT is aimed at introducing scientific and technological developments into practice and is not directly related to obtaining a commercial effect, so the formation of a technically feasible idea can be considered the beginning of the transfer of development, and the completion of the new development is brought to production.

Keywords: agriculture, transfer, technology, modernization.

INTRODUCTION

Technology transfer is the process of transferring (selling, exchanging) scientific and technical knowledge and experience with the aim of providing scientific and technical services, applying technological processes or organizing the production of competitive products in accordance with market needs. The “transfer” share of technology is actively separated into a special environment and form of economic relations. The criterion for the presence of the fact of transfer is the active use of the transferred technology for production purposes. Thus, transfer is a necessary tool for carrying out information activities (hereinafter referred to as ID), the purpose of which is to transfer knowledge to solve certain problems and the main form of promoting innovation.

A commercial transfer or commercialization of technology involves the process of transferring research results to the field of practical application, production and marketing activities in order to obtain commercial benefits. Commercialization is aimed at obtaining a commercial result and begins from the moment the prospects for commercial use of the new development are identified, and ends with the implementation of the development (the technology obtained with the help of the product or the service provided) in the market and the commercial effect. Thus, commercialization is a transfer element in which the consumer (buyer) pays a fee to the owner (who is or not the developer) of the technology in one form or another and in sizes determined by mutually agreed contractual terms.

MAIN PART

The objects of non-commercial technology transfer are:

- scientific, technical and educational literature, reference books, reviews, standards, patent descriptions, prospectus catalogs, etc. ;
 - international conferences, symposia, exhibitions;
 - training and internship of scientists and specialists at no cost or on a parity basis for reimbursement of expenses by the parties.
- The objects of commercial technology transfer are:

- objects of intellectual and industrial property (patents for inventions, certificates for industrial designs and utility models), with the exception of trademarks, service marks and commercial names, if they are not part of technology transfer transactions;

- technical experience and know-how in the form of feasibility studies, models, samples, instructions, drawings, specifications, tooling and tools, consultants and training;

- technical and technological knowledge.

Commercial forms of technology transfer also include licensing agreements, engineering, contracts and subcontracts for joint R&D and production cooperation (including the establishment of joint ventures), investment and other types of agreements related to the assignment, transfer and protection of intellectual and industrial rights own.

Technology transfer involves five sequential steps. At the first stage, based on the knowledge gained, a business idea is formulated, on the basis of which promising areas of commercialization, specific innovative projects are determined, a preliminary assessment of the needs for these projects is given. At this stage, the most diverse construction of commercialization schemes is possible, the first initiative innovative proposals to customers are born

- to buyers of new technologies (products, services). This is a comprehensive survey aimed at providing an objective assessment of the potential for commercialization and the potential for technology transfer.

At the second stage, innovative proposals turn into goods. It provides for the creation of a technology package, which acts as a product in the technology market. As a rule, this stage includes: attracting partners and investors' funds and taking into account their requirements at subsequent stages, conducting market research and developing a business plan, as well as the necessary tests and obtaining certificates. At this stage, there is a refinement of innovative proposals and the formation of commercial offers on their basis. Promotion of the created scientific and technological package to the market occurs at the third stage, by searching for specific buyers. For this, direct appeals and negotiations, participation in exhibitions and fairs, conferences and seminars, presentations are used. In this case, both traditional approaches and the possibilities of new information technologies (Internet, email, network transfer), the media (radio, television, press) are used. A directed search for potential buyers and preparing specific innovative business proposals for them is often effective.

Decisive is the fourth stage - adaptation (revision) of the initial scientific and technological package to the requirements of a specific potential buyer. The specificity of the technology market lies in the fact that there is no mass buyer on it; therefore, the seller must conduct individual work with each potential buyer.

The final stage of the transfer of the finished technology package is the process of its implementation on the market. This may be the sale of a patent or license, the creation of a joint venture, the joint continuation of R&D, entry into an existing enterprise with intellectual property, etc. The decisive role here is played by the degree of development of engineering services that provide technical assistance for the implementation of the development, operation of equipment, which helps to reduce costs maintenance and repair of new equipment. Transfer is necessary objectively, because as in reality, each subsequent stage is implemented, as a rule, by other people, and transmission is an integral part of the innovation process.

Commercialization can be carried out both by organizations that have relevant specialists (technology managers, patent experts, lawyers, information service workers, etc.), as well as small scientific and technical enterprises that do not have these specialists, as well as developers themselves as individual entrepreneurs or physical persons. The success of this work is largely determined by the methods and volumes of state support, the effectiveness of monitoring and scientific and information support for innovative development in the field of agriculture. And if the author can implement simple innovation himself, then as far as significant innovations are concerned, the sequence of actions from fundamental discovery to making a profit cannot be applied by the author on his own with today's knowledge. An analysis of the activities of intermediaries in the Russian market of services in the field of technology transfer and commercialization shows that most of them are consulting companies and non-profit funds that provide a mechanism for developers and investors to interact through the search for developers to solve the investor's technological problems and search for investors interested in buying or finalizing developer technology solutions. Each company in the innovation market has its own specifics. The sphere

of activity of some is not only the registration of intellectual property rights and their implementation, but also the promotion of an innovative product, investment project, increasing the sales volume of a client company. But most of the current intermediaries do not assume the costs and responsibilities of managing intellectual property, which greatly reduces the effectiveness of the technology commercialization process.

An analysis of the work of the relevant structures in Kazakhstan and other economically developed countries allows us to draw the following conclusion - commercialization and TT R&D should be carried out by specialists in the field of technology transfer in innovative-innovative structures specially formed for these purposes. In a well-developed infrastructure of agricultural production, they are an integral part of the innovation system of the agro-industrial complex, connected with the governing bodies and coordination of information in the agro-industrial complex. The interconnection of these elements should determine the formation of priority areas for the development of agricultural science, and determine the direction of fundamental and applied prospective research work for scientific organizations of the Ministry of Agriculture of Kazakhstan. Almost all organizational forms of innovation support used in the world have been created in the country. But the transmission mechanism has not been worked out - scientific research does not go into applied, and then into R&D and industrial products; the demand for agricultural innovation is not sufficiently studied, indicators of economic expertise and mechanisms for promoting production are not worked out. And there are no state statistical observations on the innovation activities of agricultural organizations.

To achieve the goal, the tasks of operational and strategic planning should be defined: intensification of innovative activity with the aim of creating new competitive products and improving the quality of products to world-class indicators and expanding due to this external and internal markets for industrial enterprises, the agro-industrial complex, food and processing industries region, etc .; the maximum possible use of the achievements of science in the implementation of the structural adjustment of the industries of the region; the formation of regional scientific, technical and innovative programs and projects in the interests of ensuring sustainable socio-economic development of the region. The main tasks of the technology transfer center include:

the involvement of intellectual property in the economy, the promotion of the promotion of the results of research and development activities of universities in the region in the real sector of the economy; transfer of innovative developments of regional universities to large industrial enterprises in order to organize large-scale production of domestic high-tech products;

the formation of a transparent information environment about the existing scientific and technological potential, innovative developments and products; Creation and support of information databases serving technology transfer clients; rendering assistance to subjects of innovative activity in the development and promotion of innovative and investment projects; training in the field of scientific and innovative entrepreneurship; organization of regional innovation structures of the TTC in order to create a unified national network of technology transfer centers and more.

CONCLUSION

The main incentives for diversification in crop production in the republic through the dissemination of knowledge Extension.

The following is:

- increasing the sustainability of agriculture;
- increasing resource efficiency;
- Reduction of risk in agribusiness;
- improving the availability of feed;
- improving food security;
- improving the well-being of the rural population.

An important role is played by the economic component of diversification, as alternative cultures are more profitable. Compared to wheat, these are crops such as lentils, sunflowers, mustard, flax, durum wheat, chickpeas, rape and others.

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ТРАНСФЕР ТЕХНОЛОГИЙ КАК ОДИН ИЗ ПУТЕЙ МОДЕРНИЗАЦИИ В ПРОИЗВОДСТВЕННОМ СЕКТОРЕ АПК

Аннотация. Создание инновационной инфраструктуры на базе научных учреждений (агротехнопарки, центры трансфера технологий, бизнес-инкубаторы и др.) даст возможность более полно использовать научный потенциал АПК. Трансфер технологий осуществляется как в некоммерческой, так и в коммерческой формах. На непатентованную информацию приходится основной поток передачи в некоммерческой форме, часто это сопровождается небольшими расходами и нередко поддерживается по государственной линии, или на основе фирменных и личных контактов. Сам по себе ТТ нацелен на внедрение научно-технических разработок в практику и не связан непосредственно с получением коммерческого эффекта, поэтому началом трансфера разработки можно считать формирование технически реализуемой идеи, а завершением - доведение новой разработки до производства.

Ключевые слова: сельское хозяйство, трансфер, технологии, модернизация.

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ТЕХНОЛОГИЯ АӨК ӨНДІРУ СЕКТОРЫНДА МОДЕРНИЗАЦИЯЛАУ ЖОЛДАРЫНЫҢ БІРІ РЕТІНДЕ

Аннотация. Ғылыми мекемелердің базасында инновациялық инфрақұрылым құру (ауыл шаруашылық парктері, технологиялар трансферті орталықтары, бизнес-инкубаторлар және т.б.) аграрлық сектордың ғылыми әлеуетін неғұрлым толық пайдалануға мүмкіндік береді. Технология трансферті коммерциялық емес, коммерциялық түрінде де жүзеге асырылады. Жеке меншік емес аппарат коммерциялық емес түрдегі аударымның негізгі ағынын есепке алады, көбінесе бұл төмен шығындармен бірге жүреді және көбінесе мемлекеттік желі немесе компания мен жеке байланыстар негізінде жүзеге асырылады. ТТ ғылыми-техникалық әзірлемелерді тәжірибеге енгізуге бағытталған және коммерциялық тиімділікке тікелей байланысты емес, сондықтан техникалық мүмкін идеяны қалыптастыру дамуды трансферттің бастауы деп санауға болады, ал жана дамуды аяқтау өндіріске жеткізіледі.

Түйін сөздер: ауыл шаруашылығы, трансферт, технология, модернизация.

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