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Communication in the System of Agrarian Industry

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ABSTRACT: in the world of digital technology in all spheres of life should be introduced innovative technologies for management efficiency. Facing new challenges in agriculture: to feed a growing population, to meet the demand for quality food products and services is no less acute problem of improving the efficiency and profitability of agriculture.

KEY WORDS: Information technology, agriculture, information agriculture, EU legislation, food supply chains, quality.

I. INTRODUCTION

One of the acute problems of agro-industrial production is the low efficiency and effectiveness of management decisions due to insufficient development of intellectual and cultural environment in rural areas, insufficient use, including in economic practice in the field, of new information technologies.

Agriculture is an ideal environment for the application of information technology (it). In this regard, for the effective and sustainable functioning of economic entities of the Republic in the new conditions, it is necessary to apply advanced information technologies that allow to identify their internal reserves, attract external investments, as well as to restructure organizational structures and perform reengineering of management systems. We are talking about using the most diverse data to optimize the decision-making on the local application of fertilizers and pesticides in the soil to increase the productivity of agricultural production.

The complexity of the economic, political and social spheres of human activity has led to the growth of knowledge and the development of new information technologies to meet information technology. Agriculture has also undergone a change in dynamics. Despite the fact that the agro-industrial complex has always been characterized by the complexity and versatility of the tasks, there is a need to use the latest information technologies. To minimize costs, it is necessary to switch to new methods of information support and widespread use of automated management technologies. The revolution in the field of Informatization has led to globalization – there is a formation of a single information space, access to which is possible only with the use of appropriate information and telecommunication systems.

Today, information is one of the most important strategic and managerial resources. In the agro-industrial complex, information also plays an important role. Knowledge about new crops is very important. In connection with sharp changes in climatic conditions, it is important to Orient in time in the choice of certain seeds, learn about the methods of care and preservation of the crop in certain climatic conditions.

Besides, in the realities of an ever-increasing population of the planet, agriculture faces new challenges: to meet the demand for quality food products, increase yields from 1 ha of land and, of course, increase productivity at agricultural enterprises.

Currently, agriculture is an ideal environment for the introduction of information technology. It is necessary to use advanced information technologies that would allow to identify the internal reserves of agriculture and attract external investments.

Any farmer of the country should be able to access the global Internet and use the knowledge that is stored in the vast global network, share experiences in real time with other farmers.

It is possible to offer only some part of scientific and technical progress which application would facilitate processes of control, management of the enterprise of agrarian and industrial complex which helped them to increase productivity or a livestock.

So, with the use of GPS or GLONAS systems (global positioning systems), which are installed on any object



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Vol. 7, Issue 2 , February 2020

(tractor, machine, etc.), it is possible to control the operation of agricultural machinery.

Remote sensors measuring soil moisture or ambient temperature accurately and quickly notify specialists about the need for irrigation or ventilation. Sensors for determining plant conditions (the presence of diseases and/or weeds) exist and are used everywhere in the world. The operation of such sensors is based on the use of laser-radar technology or on the technology of ultrasonic or electromagnetic installations. Depending on the range of location and application of remote sensors can be identified and technology of infrared waves, spectrophotometers, atomic resonators.

II. BASIC REQUIREMENTS OF SYSTEMATIZATION

One of the actual directions of using it in agroindustrial production is precision agriculture, which provides a strategy of crop yield management using a global positioning system (GPS), geographic information systems (GIS) and technologies, and data from multiple sources about the conditions of growth and development of plants and the economic situation of each unit of management within a single field.

One of the signs of the use of it in farms is the presence of computers, as well as their connection to the Internet. It is used mainly for accounting, automation of agricultural processes.

Modern it allows farmers to receive advice, recommendations, regardless of the time and place of their location. The farmer can describe his problems through ordinary speech illustrated with photographs or videos. The time and location of the farmer are determined automatically. He can then e-mail his materials to the supporting agricultural services and receive a response after a while, or he can solve his problem online directly via the Internet.

The expansion of information databases is an important but insufficient condition for their effective application in farms. The initial information should be useful for assessing biological and physical systems in order to develop useful knowledge about the current state of farms, as well as to predict the results in the implementation of various scenarios. The accumulated knowledge in agricultural research over the years should be applied to obtain practical useful information through database processing. This means that it is an indispensable source for the implementation of research and development[1-3].

A number of factors contribute to the growth of investment in it in the region: ongoing economic reforms, privatization, growth of foreign direct investment, significant demand of small and medium-sized businesses, as well as individual users for personal computers and software.

Unified it pushes entering the market competition of companies to increase the cost of it and improving the information infrastructure.

In General, despite the high share of the manufacturing sector in the economy, the overall level of Informatization of enterprises is extremely low today. This is largely due to the General economic downturn in the country, in which agricultural enterprises can not afford large financial investments in technologies that improve the efficiency of management and production, even in the near future. However, groups of enterprises that can become leaders in the use of the most modern and expensive information systems are already emerging. First of all, these are enterprises whose share of goods in the market exceeds 35%.

III. INFORMATION SYSTEM ANALYSIS

On-Board sensors-productivity monitoring. Thanks to them, it is possible to determine the norms of sowing seeds, applying fertilizers, water or pesticides. They allow determine the technical parameters of the movement of agricultural machinery.

In different areas of the same field yields are always different. But the use of information technology can reduce this difference to a minimum.

In animal husbandry, the efficiency of production depends directly on the technology of animal feeding. Therefore there is an active development of technologies of preparation of forages, technology of cultivation of a bird (as the meat most consumed in the country).

It is also necessary to expand information databases. All necessary information should be convenient for storage, presentation and use. The accumulated knowledge in the field of agricultural Sciences should be structured and easily applied in the implementation of research developments[6-9].

Based on the above, there are several main directions, the introduction of innovative technologies that will increase the efficiency and profitability of enterprises of the agro-industrial complex:

1. Technology of processing of soil
2. Technology of growing and keeping livestock



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Vol. 7, Issue 2, February 2020

3. Harvesting and conservation technologies
4. Technology of collection and preservation of livestock products
5. Agricultural machinery improvement technology

According to experts, the country's overall level of automation and Informatization of agricultural enterprises is underdeveloped.

Even the elementary supply of farms with the simplest information technologies-a computer with access to the global information network "Internet" today is an unbearable burden for farms. Meanwhile, based on statistical data, we can observe the following picture of the use of information technology in agriculture around the world

Many of the farmers work to provide food for themselves and their loved ones, and do not consider it necessary to increase the Informatization and automation of their farms.

But recently in the sphere of agro-industrial complex huge efforts on introduction of information technologies are made. First of all it concerns programs of optimization of placement of agricultural crops in zonal systems of crop rotation and rations of feeding of animals. Applied computer programs on calculation of doses of fertilizers, regulation of a mode of food of plants in greenhouses, and also on management of technological processes in processing are developed and storage of meat and meat products. There are programs for the complex of land management and land management.

In Uzbekistan, the Ministry of agriculture plans to develop a technical project-agricultural information system. The Ministry of agriculture plans to create a single corporate network across all regions of Uzbekistan, including all existing local networks of agricultural management bodies at all levels. This will give the Ministry of agriculture an overall picture of the state of the agro-industrial complex in the country, will allow to evaluate and develop projects based on the experience of each particular region[10].

An example of positive implementation of information resources in the agricultural sector is FAO UN-food and agriculture organization of the United Nations. This organization since 1945 is engaged in the issues of food resources and agricultural development of different countries of the world. The information resources of an organization are a collection of decisions, knowledge, skills and abilities shared by members of that organization[10].

I have the necessary and reliable information the head will always be able to make the right decision, calculate the economic effect of the introduction of a particular technology. And today for the farmer it is the most difficult task. Attempts to establish effective management of the farm often encounter the problem of reliability of information-lack of information or incomplete information about the terrain, the nature of land use, insufficient updating of cartographic material. Programmes to maintain the state cadastre of field history and to develop technological maps of crop cultivation are designed to address this gap[6].

The next problem is the cost of agricultural machinery. To reduce the costs of the equipment itself and its further management, maintenance and control is possible with the possession of sufficiently reliable and complete information about the produced equipment and additional possibilities of information technologies. The most effective use of agricultural machinery can be achieved with the competent construction of the software and hardware complex. For example, the tractor can be equipped with parallel driving systems, crop sensors, differential application systems, soil analysis systems. To monitor the equipment itself, you can equip it with a GPS system. Of course, it is necessary to monitor agricultural land.

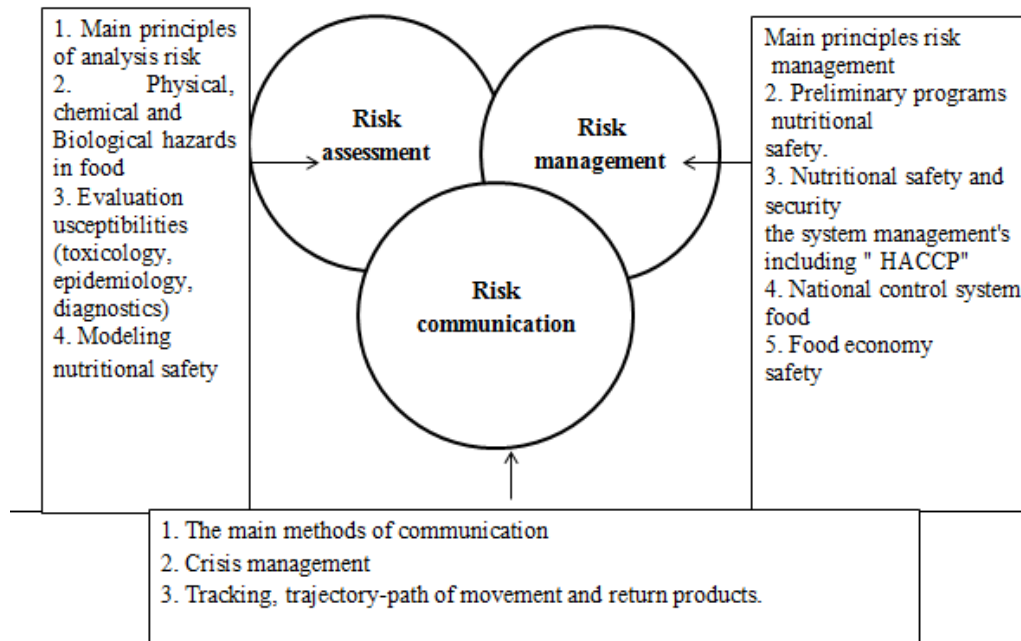
As for animal husbandry, the scientists of the Ministry of agriculture. K. A. Timiryazeva developed software for computers, which can be used to optimize animal feeding rations, analyze and plan animal feeding. With this software product, you can rationalize the following groups of animals: dairy cattle, pigs, poultry, sheep. The main purpose of such programs is to plan the stocks of feed raw materials according to the calculated rations and recipes of feed mixtures, feed additives.

In addition to feeding in animal husbandry, there is another global problem – diseases of livestock. Here in the work of zootechnics can be added a program to automate the operations of accounting, planning, control and analysis in the cultivation of livestock. The program displays the visibility of the physiological state of the herd, diagnosis of diseases, convenience and efficiency of decision-making[8].

About each presented technology, you can say a lot. But, even after studying the theoretical material, it can be concluded that the introduction of information technology in the agro-industrial complexes of the country can help in a relatively short time (depends on the cost of initial investments and the effectiveness of implementation) to increase the profitability of the enterprise.

Production of safe food products requires the permanent analysis of possible risks and dangers of food products in the commodity system, i.e. from sowing to the consumption. At the same time analysis of risk, consists of three interactive inter of units-assessment risk, management of risk and risk communication. Risk communication includes

basic methods of communication, crisis management, tracing, trajectory-way of motion and return of food products. Specialization in the system of agrarian industry must result in the height of the productivity. However, she also results in complication of associateness consumer-supplier in the sector of agrarian production.



Communication in the system of agricultural industry

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Risk communication includes basic communication techniques, crisis management, tracking, trajectory-path movement, and food return. Specialization in the system of agro-industry should lead to an increase in yields. However, it also leads to a complication of consumer-supplier interconnectedness in the agricultural production sector.

There are models of the production process and an optimal flow of information between production consumers and suppliers about their individual solutions. For the analysis and evaluation of the company's management process, information on internal audits focused on the consumer and the supplier, as well as the wishes of the consumer, is considered[10].

Existing models have the disadvantage of considering only consumer-supplier interactions. There are other models covering all possible interactions in the agricultural production chain. On them, the exchange of information should be considered in aggregate. Then, information between different parts of the chain can be exchanged with their consumers.

Model of information exchange in the quality management chain another approach relies heavily on knowledge and exchange of INF between different links in the chain. Effective application and provision of innovative information technology can improve productivity, enhance the responsibility of the supplier and lead to high consumers. The concept of publicity should also be taken into account here.

IV.THE STRUCTURE OF COMMUNICATION

Each link of the entire chain can take information from its control points in the network, in the middle and at the end of the production process. Here it is necessary to distinguish three categories of information relating to the smallest established unit of the chain:

Information exchange model in the quality management chain another approach:



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1. Product information
2. Information about the production
3. Additional information-refers to information that describes in more detail the product, quality standards, means of production.

V. CONCLUSION

Activity of the enterprise in the it market depends, first of all:

* from the production potential characterizing the General state of production (decline, rise) and, as a consequence, the relevance of the enterprise's needs in Informatization;

* availability of investments, the number and structure of which determines the potential of enterprises as it customers, as well as the choice of the type of information systems-systems aimed at optimizing production technologies (eg, CAD) and / or systems designed to optimize enterprise management (IPM);

* export potential, which determines the intensity of work in the world market. As a rule, these enterprises strive for maximum compliance with international standards.

Recently, in the field of agriculture, conditions are increasingly emerging and significant efforts are being made to introduce information technologies. The most well-known technologies are implemented in the framework of applied computer programs [2,6].

As for the scope of use, it is worth saying rather not about the direction of the enterprise using information technology, but about its size. The modern IT market offers solutions for almost any production, from growing wheat to breeding new breeds of chickens. However, for each such solution there are restrictions on the minimum (as well as maximum) size of the enterprise, within which the implementation will be effective.

The development of information technologies is connected with the issues of improving the efficiency of the state information and Advisory center (GICC) of the agro-industrial complex and its branches operating in almost every region. To ensure consulting work of the GICC, it is necessary to have specialized databases, to attract reference data of existing legal systems, Internet search systems, knowledge Bank, application programs that provide assessment of the current situation and forecast of its development [3,9].

The need to reduce man-made loads in agriculture, the impact of applied technologies on the environment, as well as improving food safety in the process of their production are the main factors that increase the importance of information technology (it). Significant acceleration of Informatization of agriculture is a key factor of its future sustainable development, for example, it is necessary to use information technologies in addition to technological calculations.

Due to the limitation of the amount of stored information in a person's head, only a few factors can be considered at the same time, in this regard, intuitive methods are also used.

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Information exchange in the production system is investigated, but most often they consider sketchy links. A set



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of databases contains significant information to establish effective necessary conditions. Existing sources of information must be combined or integrated into an appropriate database, which requires in-depth research using innovative information technologies.*

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