

PROBLEMS OF IMPLEMENTATION OF DIGITAL TECHNOLOGIES IN ANIMAL HUSBANDRY

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It is determined that the future of animal husbandry is seen in the development of intelligent digital production management systems, harmonization of interaction of all elements and connections in a complex biotechnical system man - machine - animal and identified problems of implementation of digital technologies in animal husbandry.

Keywords: animal husbandry, intelligent digital systems, efficiency, implementation problems.

Digitization in dairy farming, pig farming and poultry farming is an inevitable impact of new technologies on all spheres of human life. First of all, the technologies of "Industry 4.0" (the fourth industrial revolution) will be most used in large farms, as they require significant billion-dollar investments, which are affordable only to large integrated structures. The future of animal husbandry is seen in the development of intelligent digital production management systems, harmonization of the interaction of all elements and connections in a complex biotechnical system man - machine - animal. Based on the machine-centric model that is developing in the industry, the role of the "machine" factor, more fully and accurately serving animals, should be strengthened. In the future, farms will be autonomous robotic enterprises, where people will be freed from the routine of manual labor, the need to get up at five in the morning and go to milk cows, remove manure and perform other routine and unattractive operations [1]. Man must engage in intellectual work, adjust the control algorithms of production processes, obtain information about the condition of animals, their location at any time, know about the problems that occur in the main functional subsystems: milking, feeding, microclimate, etc.

The efficiency of digitalization of animal husbandry is, first of all, the creation of advanced digital enterprises in animal husbandry (smart dairy farm, pig farm, etc.) on the basis of intelligent automated and robotic biomachine systems of the new generation. According to scientists, the use of these technologies everywhere will reduce the level of import dependence of the industry by 35-40%, increase the quality and quantity of products by 25-30%, increase labor productivity in the main subsectors of animal husbandry by 1.5-2 times, and will contribute maintaining the health and productive longevity of animals. In turn, centralized and local intelligent systems for the management of these biomachine complexes and subsystems in animal husbandry (microclimate, milking, feeding, waste disposal, animal husbandry, etc.) will harmonize the interaction of biological, technological and machine facilities, effective management, reduction of production costs by 35-40% and increase in animal productivity by 15-20% [2,3].

Digital solutions for animal husbandry are information systems and technical means that allow you to properly allocate resources and keep accurate control of all production processes on the farm. These are, first of all, topical solutions that provide automation of the main production processes, allowing to monitor and control production indicators: hopes for the head, milking parameters, reproduction of the herd and health, eating food. All this makes it possible to quickly make management decisions. The dairy industry is one of the first among other livestock sectors to use intelligent production management systems, including radio frequency identification systems, computer control systems for milking, feeding, microclimate, manure removal, milking robots and others. decision. These companies use mainly imported milking equipment, equipped with digital systems for collecting and processing information about individual milkings of animals, the health of the udder of cows, sexual hunting and other zooveterinary characteristics. Also, farms often have automated standardized group feeding of animals based on self-propelled feed mixers, in some cases using robotic systems for distributing and pushing feed on the feed table, integrated into the overall farm management system.

Despite the obvious advantages of digital technology, there are certain factors that slow down or even make it impossible to master. Digitization equipment is often imported, and high exchange rates make the construction and modernization of production too expensive a pleasure. Digital technologies are accompanied by complex mechanisms and expensive implementation. But it is not only the financial side of the issue that is hampering mass implementation, because at first only some processes can be digitized, which are becoming more and more accessible every year. There is an acute shortage of IT specialists for agriculture, and they will be indispensable for global digitalization at every enterprise. But still with the new generation, which receives the necessary knowledge and skills in the field of digital technology in school. The main problem is really not the cost of decisions, difficulties in obtaining loans or lack of subsidies for such products, but the human factor. New products for digital animal husbandry require appropriate training of the company's specialists. Unfortunately, at the moment there is a big gap between manufacturers (technology suppliers) and education (science). To solve this problem, it is necessary to pay special attention to the training of young professionals in higher education institutions, to hold lectures on the products of modern companies, new developments, to mount classrooms with the latest equipment.

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THE NEED TO APPLY INFORMATION TECHNOLOGY IN THE AIC

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The advantages of informatization and the introduction of innovations in agriculture are substantiated, barriers are identified that prevent the timely and large-scale implementation of information technologies in agricultural enterprises.

Keywords: information technologies, agriculture, agro-industrial complex.

In modern conditions, one of the main tasks of the priority development of the agro-industrial complex of the country and regions to address food issues and the need to increase competitiveness is the intensification of agro-industrial production. Automation, comprehensive mechanization and the development of information technologies, which allow each unit of used resources to obtain a larger quantity and variety of high-quality food products, is the most effective way of developing the agro-industrial complex [1].

In the developed countries of the world, the development of intensive and efficient agricultural production is ensured today both by introducing new technological production processes and by improving the information technology base in managing these processes. As a rule, modern information technologies are the main factor in the efficiency of agricultural production. Computer programs are the basic elements of new information technologies. These programs display in the form of mathematical models and information processing methods advanced modern methods of agricultural production, as well as the knowledge of leading specialists and scientists in the relevant fields of agriculture. Such economic indicators as profit, the level of profitability of production make it possible to assess the effectiveness of a single agricultural sector in a market economy.

The ultimate goal of introducing new information technologies lies in the maximum enthusiasm for these indicators. The general level of informatization of agro-industrial complex enterprises in modern conditions seems to be insufficient, which is explained by the following reasons:

- low efficiency of economic entities in conditions of insufficient and state influence on the processes of formation of the material and technical base and the organizational and economic situation of systemic informatization;
- lack of a developed infrastructure for informatization of the domestic agro-industrial complex;