


Chapter 11

Digitalization as a Factor in Improving the Competitiveness of the National Economy: Opportunities and Prospects for the Agro-Industrial Complex of the Russian Federation

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ABSTRACT

The need for the transition of the Russian agro-industrial complex to a qualitatively new level of technological development, which fully meets the current challenges and contradictions, has become more apparent. The research presents a review of the most promising innovative technologies of agro-industrial production, the introduction of which in the Russian AIC will increase the competitiveness of Russian food on the foreign market, positively affect the efficiency of environmental management, and reduce anthropogenic risks. The consideration of the advanced foreign experience in improving the sustainability of national food systems through the use of innovations in the resource provision of food production, expanding the use of remote channels of sale of food products, digitalization of customs procedures, and monitoring the safety and quality of goods in the implementation of export-import operations allowed the author to identify the most pressing areas of the Russian economy and propose a set of measures that can be used during the creation of a national food ecosystem.

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INTRODUCTION

The global transformations caused by the permanent instability of the epidemiological situation in various regions of the world and, consequently, the disruption of world economic relations have brought humanity to the threshold of a new technological mode of international economic relations. In particular, the effects of the COVID-19 pandemic highlighted the need to modernize national agricultural and food production and distribution systems.

It is widely known that the development of the global food industry is characterized by heterogeneity and is correlated from country to country depending on the level of economic development. Having come a long way in its evolution, from traditional farming to the “biotechnological revolution” and “high-precision agriculture,” agricultural production has now entered a new stage of scientific and technological development, which involves a large-scale digitalization of the value-added process and cross-border trade mechanisms (Funabashi, 2018).

The requirement implemented by several major players in the world food market for complete traceability of production chains and logistics of imported products, accompanied by increasingly clear prospects for the introduction of total electronic document management, stimulates the process of exporting food far beyond the traditional models of foreign economic activity and e-commerce to a qualitatively new technological format, the general principles of which are currently being formulated (European Commission, n.d.; General Administration of Customs of the People’s Republic of China [GACC], 2021).

Humankind has accumulated a vast body of scientific research on the digitalization of virtually every aspect of food production (Gindele & Doluschitz, 2018; Lovchikova & Alpatov, 2020). However, it should be noted that the subject matter of the vast majority of works in this area mainly refers to the area of innovative technological support of the highest possible level of production of these products with minimal resource costs to reduce the anthropogenic impact on the ecosystem and refers to the segment of the national economy.

Simultaneously, the current realities of cross-border trade imply an increasing degree of “transparency” of the production cycles of goods at all stages of value-added formation and the entire range of logistics processes up to the arrival to the final consumer (European Commission, n.d.). This fact, together with the increasing practice of restricting imports of goods that do not meet the host country’s geographical indications, quality and type of used raw materials, safety, and other criteria (GACC, 2021), encourages countries to modernize domestic policies to support exports of national agro-industrial enterprises in the international market and involves strengthening the cooperation of the business community with government agencies.

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