«Agriculture 4.0» – a project of the future or a platform for responding to major challenges and threats to national security

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Abstract

The purpose of the article is to study «Agriculture 4.0» as a project of the future or a platform for responding to major challenges and threats to national security. ***The methodology*** of this study was based on the methods of analysis and synthesis, comparison, generalization and systematization, as well as the structural-logical approach, analysis of open empirical statistical data and the graphical method. ***Results.*** The article examines the theoretical and practical foundations of the directions of digital development of agriculture. The necessity of transformation of modern techniques and technologies for managing the development of agriculture on the principles of sustainable development into a qualitatively new type – «Agriculture 4.0», digital economy or smart agriculture is substantiated. This paper focuses on four main technologies: the Internet of Things, blockchain, big data and artificial intelligence. ***Conclusions.*** The Agriculture 4.0 project is comprised of a variety of existing or emerging technologies such as robotics, nanotechnology, synthetic protein, cell agriculture, gene editing technology, artificial intelligence, blockchain and machine learning, which could have overarching impact on future agricultural and food systems. It can ensure the creation of economic, environmental and social benefits and be a response to challenges and threats to national security.

Keywords: *national security, agricultural innovation, Agriculture 4.0, Industry 4.0, digitalization*

The article was prepared in the framework of the state task of the MEI RAS, the theme of research «Socio-economic and scientific-technological development at different levels of management in the sectors, complexes and spheres of activity of the national economy of Russia».

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For citation

Romanova Yu.A., Levina E.V. «Agriculture 4.0» – a project of the future or a platform for responding to major challenges and threats to national security. // Market economy problems. – 2020. – No. 3. – Pp. 84-94. (In Russian).

DOI: https://doi.org/10.33051/2500-2325-2020-3-84-94