II International scientific and practical conference "Ensuring sustainable development in the context of agriculture, green energy, ecology and earth science" (ESDCA-II-2022)

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Abstract. Within the framework of the presented material, the results of the conducted II International scientific and practical conference "Ensuring sustainable development in the context of agriculture, green energy, ecology and earth science" (ESDCA-II-2022).

We are pleased to present a collection of materials II International scientific and practical conference "Ensuring sustainable development in the context of agriculture, green energy, ecology and earth science" (ESDCA-II-2022), which took place on January 23-28, 2022 in Smolensk State Agricultural Academy (Smolensk, Russian Federation) and was dedicated to agricultural development, environmental protection and energy.

The conference was present scientific research aimed at solving a set of problems in the field of sustainable development, namely:

- Development of scientific and practical potential in order to formulate proposals for the introduction of science-intensive technologies in agriculture;
- Popularization of fundamental and applied research in the field of agriculture, green energy, ecology and nature management, mining and soil cultivation technologies;
- Formation of recommendations aimed at improving computer models, information technology, engineering, innovative and digital technologies in agriculture, environmental protection and green energy.

The topics of the conference were as follows:

- Agriculture, field cultivation, animal husbandry, forestry and agricultural products;
- Mechanization, engineering, technology, innovation and digital technologies in agriculture;
- Ecology and environment protection;
- Green Energy and Earth Science.
Representatives of scientific and research, government and commercial organizations, as well as scientists attended the conference from the middle and far abroad. Among the conference participants were representatives of ten states, namely: Ukraine, Japan, Great Britain, the Republic of Armenia, the Republic of Uzbekistan, the Republic of Tajikistan, the Republic of Kazakhstan, the Republic of Belarus, the Republic of Azerbaijan and the Russian Federation.

During the plenary session, the following reports were made:

- Anna Lude - Assistant Professor, Institute of Science and Technology, Niigata University, Niigata Prefecture, Japan; Vaitekhovich Yury Alexandrovich - postgraduate student of the Graduate School of Science and Technology of the University of Niigata, Niigata Prefecture, Japan with the topic of the report: "The possibility of introducing and cultivating vegetable soybeans in the conditions of the Amur Region";
- Sarikyan Karine Mironovna – Candidate of Agricultural Sciences, Ph.D, Head of the Department of Breeding and Cultivation Technology of Solanaceous Crops of the Scientific Center for Vegetable and Industrial Crops of the Ministry of Economy of the Republic of Armenia, Ararat Region, Republic of Armenia, with the topic of the report: "Breeding of miniature varieties of nightshade crops in Armenia";
- Fedorova Yuliya Nikolaevna - Doctor of Agricultural Sciences, Professor, Vice-Rector for Research and International Relations of the Velikie Luki State Agricultural Academy, Velikie Luki, with the topic of the report: “The effects of foliar top dressing with liquid polymer fertilizer Zelenit nitrogen micro on the growth and development of potato plants under in vivo”;
- Romanova Iraida Nikolaevna - Doctor of Agricultural Sciences, Professor, Honored Worker of the Higher School of the Russian Federation, Professor of the Department of Agronomy, Land Management and Ecology of the Smolensk State Agricultural Academy, Smolensk, Russian Federation with the topic of the report: "Agroecological and technological assessment of new varieties of cereals depending on biotic and abiotic growing conditions".

The first section was devoted to the development of agriculture and agro-industrial production reports were heard on the following topics: scientific support of innovative development of agriculture; intelligent, digital and automated technologies in agriculture; modern scientific achievements - the practice of production and processing of crop products; resource-saving technologies, rational nature management and innovative technologies in the agro-industrial complex; automation and digitalization in the agro-industrial complex; biotechnical systems and technologies in agriculture; feeding farm animals; machines and equipment for selection and seed production; mathematical modeling of applied problems of mechanics in the agro-industrial complex; environmental protection in agro-industrial production; tractor and agricultural engineering; organization of agro-industrial production and agriculture.

The second section was devoted to issues of green energy, ecology and earth sciences in which reports were presented on the following topics: oil and gas, environmental, chemical and energy engineering; renewable and alternative energy sources, green energy; mechanization and electrification of agriculture; environmental protection, nature management and ecological safety; production management in the context of the transition to sustainable development; organization of efficient and environmentally friendly production; biodiversity and ways of its conservation; natural-climatic and anthropogenic factors in the evolution of natural ecosystems; rational use of natural resources and environmental protection, mining and soil cultivation technology; extracted resources: coal, gas, oil, peat and other minerals; system analysis, physical and mathematical modeling, computer and information technologies in the context of sustainable development.

The participants and guests of the conference appreciated the high level of the report, the scientific and practical application of the proposed approaches and methods, as well as the need to form
scientific groups for joint international research on topical problems of the development of agriculture, green energy, ecology and earth science.

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