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Organic agriculture practises and approaches to certification of Organic agriproducts: Review article

Chumak, K.[1], Soytong, K.[2*] , Song, J. J.[2] and Mitrokhin, M.[1]

[1]RusQuality, Moscow, Russia; [2]Research Insitutute of Modern Organic Agriculture, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand.

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Abstract Organic certification has encouraged for reliable the consumer demand to get safety food. Association of Agricultural Technology in Southeast Asia (AATSEA) has started irganically certified in the year of 2015 by following the organic standard from many certify bodies eg., International Federation of Organic Agriculture Movements (IFOAM) by BioAgriCert , organic USDA etc. The main target is to examine organic production without application of agrochemicals (chemical fertlizers, chemical pesticides and other synthrtic chemicals) through environmental protection surrounding of soil, water, air and biodiversity for sustainability. In 2022 AATSEA has proposed an dynamic evolution of modern organic agriculture for certification. AATSEA Organic standard is approved by the committee which concerns to the final organic products will not detect toxic agrochemicals, formalin, nitrate/nitrite, non-GMO, low standard of heavy metals as well as *Escherichia coli, Samonella* sp. The burgeoning logistics and supply chains for agricultural products across Eurasia necessitate robust interaction and expert dialogue among relevant certification bodies. This is crucial for fostering harmonisation and mutual recognition of organic products between RusQuality, Russia and AATSEA Organic certification.

Keywords: Organic certified, RusQuality, AATSEA

Organic agriproducts in Russia

Practices in the Russian Federation and the Eurasian Union for the organic markets in the Russian Federation has been flourishing since the inception of systematic state regulation and the enforcement of Federal Law No. 280 - FZ "On Organic Products" in January 1, 2020 (Radaev and Kotelnikova, 2022) The market has been growing at an average rate of 10-12% per year, indicating a robust demand for organic products (Eurostat, 2021). In 2022 alone, the number of organic producers saw a significant increase of 46% compared to 2021(https://www.fibl.org/fileadmin/documents/shop/1344-organic-world-2022.pdf.). By the end of 2023, the number of organic certificates had nearly

[*]**Corresponding Author:** Soytong, K.; **Email:** ajkasem@gmail.com

reached 400, further demonstrating the market's vitality. Organic products are progressively gaining traction among both consumers and producers. Currently, there are organic product producers in 50 subjects of the Russian Federation. The variety of Russian organic products is extensive, with almost all domestic agricultural products being certified. New categories of goods are emerging, including organic berries, honey, products from wild-growing raw materials, tea, dairy products, alcoholic beverages, flour, cereals, and much more. The Organic Atlas of Russia, an almanac about organic product producers structured by region, is published twice a year(https://www.linkedin.com/pulse/2023-global-organic-food-market-demand-supply-overview). In 2023, at the suggestion of RusQuality, the first edition of the EAEU Organic Atlas was published, marking another significant milestone in the dynamic development of modern organic agriculture.The undisputed leader in the number of certified organic products are producers of cereal crops. In Russia, they are grown by about 30% of producers. Then come vegetable products - 18.3%, livestock products - 16% and animal feed - 15%. (Fedotova *et al*., 2023).

In Russia, organic products are recognized only those that have passed the certification procedure in an accredited body. One of the basic and main ones is "RusQuality - Organic". Having an organic certificate allows the consumer to make sure that products labeled "Organic" (white leaf on a lettuce background) do not contain pesticides, antibiotics, GMOs and other substances prohibited by organic legislation. Confidence in the Russian organic label is now already 73% (http://www.coa-ukraine.com/en/news/198-organic-products-in-russia-often-counterfeit). The current law is based on international practice and controls compliance with the principles of organic agriculture along the entire chain of production: from the land to the store shelf. For certification of producers in Russia, documentation alone is not enough to confirm compliance. This is why RosQuality takes samples of soil, raw materials, and ingredients. Only on the basis of clean laboratory test protocols can we declare that products are environmentally friendly (Yakovleva and Kapralov, 2023). According to Federal Law No. 280 - FZ "On Organic Products", the production of organic products must be separated from the production of non-organic products. Also, organic products must not be mixed with other products during storage and transportation. It is forbidden to use agrochemicals, pesticides, antibiotics, growth stimulants, hormones and other preparations, except for those authorized by the national, interstate and international standards in force in Russia in the field of organic production. Cloning and genetic engineering techniques are prohibited. Hydroponic method of growing plants and ionizing radiation should not be used. It is necessary to ensure optimal sanitary and hygienic indicators of farm animal housing. Packaging that may cause contamination of organic

products (e.g. toxic printing ink) and the environment must not be used (Voronin *et al.,* 2022).

Russian requirements for the production of organic products are equivalent to the recognized international requirements of IFOAM standards. Standard GOST 33980-2016 (Meredith and Willer, 2016) "Organic products. Rules of production. Processing, labeling and sale" has passed the equivalence assessment in COROS. Foreign producers of agricultural products have the same requirements and certification rules as Russian producers (https://leap.unep.org/en/countries/ru/national-legislation/interstate-standard-gost-33980-2016-organic-production-rules). RusQuality has experienced in certifying producers from Georgia, Spain and Tunisia. Certification gives the producer a significant competitive advantage, distinguishing him on the store shelf. Organic producers undergo regular inspections to ensure that they always meet the criteria of the law. At least once a year, an inspection control is carried out. The consumer can be confident in the integrity of Russian organics (https://www.rbgmedia.ru/files/rbg-229.pdf). In addition, only in Russia, organic products have 4 degrees of protection, which allows you to distinguish an environmentally friendly product from pseudo-organics:-the product must be listed in the Unified State Register of Organic Producers of the Ministry of Agriculture of the Russian Federation. The product must be appropriately labeled "Organic". The product must have a special QR code, when pointing the phone at which the consumer sees all the information about the producer of organic products. All certificates are entered into a special register of Rosakkreditation (Gracheva and Sheludkov, 2021).

The conditions for certification in Russia are very attractive. The average cost of the service for confirmation of conformity of organic production is 3-4 times lower than in Europe and amounts to about 1 thousand euros. A producer who complies with all the requirements for the production of organic products and wants to certify them can apply to an accredited body. The certification process consists of two stages - verification of documents and audit at the production site with sampling. If they are passed successfully, the producer receives a certificate for a period of three years for his products (Samenbetova and Patlasov, 2022).

In 2023, Federal La n 2023, Federal Law No. 367-FZ dated 24.07.2023 was adopted, that Was drafted primarily by RusQuality. According to the law, the designations "eco", "bio" and "green" will be equated with the term "organic products" from September 1, 2024. The document amends the law on organic products and supplements the list of designations with which it is permitted to label such products with the words "biodynamic", "biological", "ecological", "environmentally friendly", "green", the designations "eco" and "bio" and similar

words and abbreviations. Previously, the list of such designations consisted only of the word "organic" and its derivatives. One of the main issues for international trade in organic products is the mutual recognition of certificates. For this purpose, we are working on the equivalence of standards with colleagues from Saudi Arabia, China, Turkey, Oman, as well as between the EAEU countries. The first country to recognize certificates issued by RusQuality was Qatar. RusQuality became the author of the first edition of the international agreement aimed at ensuring the free movement of organic agricultural products within the Eurasian Economic Union. The Order of the Eurasian Intergovernmental Council of August 20, 2021 № 16 approved the Action Plan ("Roadmap") for the formation of a common market for organic agricultural products within the Eurasian Economic Union. The roadmap provides for the development of an international treaty within the Union aimed at ensuring the free movement of organic agricultural products. For this purpose, the EEC Department of Agro-Industrial Policy, together with the authorized bodies of the Union's member states, has developed a draft Agreement on the procedure for recognizing products as organic within the Eurasian Economic Union (IOP Conf. Series, 2022).
(https://commission.europa.eu/system/files/202010/agri_sp_2020_2024_en.pdf)

The draft Agreement was approved by the Order of the EEC Collegium No. 197 of November 15, 2022 and sent to the Member States of the Union for the procedure of domestic approval. January 13, 2022 the first interstate technical committee on standardization of organic products ITC 557 was established. The ITC included Armenia, Belarus, Kazakhstan, Kyrgyzstan, Kazakhstan and Russia as full members, RusQuality Secretariat. ITC activities are focused on the development of interstate standards for products and raw materials of organic origin (Brussels *et al.,* 2014).

Figure 1. The certified logos of RusQuality, AATSEA, Earthsafe powered by AATSEA

AATSEA organic certification

AATSEA has proposed the definitions of non-agrochemical production in conversion period to organic agriculture as follows:-

Non-agrochemical production (NAP) which is defined as the growers must stop using synthetic fertilizer, herbicides, etc. for their production of crop and animal production. The aim is to revitalize the surrounding agroecosystem and environment, improve soil biodiversity, soil fertility with high organic matter, and proper soil pH for plant growth. NAP farms have low concentrations of toxic chemical residues in the soil, water, and agricultural products . The growers combine conventional and cultural methods to maintain and improve soil fertility, biological activities, biodiversity, soil revitalization and remediation with beneficial microorganisms and apply biological products and natural products as agricultural inputs for their production to maintain the quantity and quality of agricultural products taking into account food security and safety. NAP is organic agriculture *in transition* and the farm can be transferred to be organic agriculture for certification when no toxic agrochemical residues are detected in the soil, water, and agricultural products.

Organic agriculture (OA) is defined as a production system that relies on the natural ecosystem where negative environmental and social impacts which must be stopped the use of synthetic agrochemical inputs, such as synthetic fertilizers and pesticides, veterinary drugs, and genetically modified seeds/organisms. Synthetic agrochemicals are replaced by organic innovative products, natural products, beneficial microorganisms, biological products, natural substances, and management and cultural practices that maintain and increase long-term soil fertility. Organic agriculture promotes and enhances agroecosystem health, biodiversity, biological cycles, soil fertility, and activities. Organic agriculture products do not contain toxic synthetic agrochemical residues and are thus safe food. Organic agriculture is done as follows:-

As a system of farm management, organic production does not use any synthetic agrochemicals. Instead, it is using natural substances and biological products as agricultural inputs. Organic food production integrates environmental enhancement that maintain biodiversity, and natural resource. The objectives of organic production are to promote vegetables, fruits, herbs and animal products and food without toxic agrochemical residue in organic products, and organic markets. Organic production is the integration of organic production, environmental protection and social welfare to meet the sustainable development goals(SDGs). Organic production include the processing of agricultural products as food or feed on the market as organic products. The regulation is based on the sustainable development of organic production with in the positive effects in surrounding environment. It is to help the farmers to achieve a fair income, ensuring consumer confidence. Organic production prohibit the use of ionising radiation, animal cloning and artificially induced polyploid animals or genetically modified organisms ('GMOs'), and products produced from or by GMOs. It is incompatible with the regulation of organic production and consumers' perception of organic products. The organic inspectors must measure at every stage of production, preparation and distribution to preserve biodiversity and soil quality, to prevent and control pests and diseases and to avoid negative effects on the environment, animal health and plant health. Control to avoid contamination with products or substances are not authorised for use in organic production. Products produced during the conversion period as NAP (non agrochemical production) should not be placed on the market as organic products to avoid confusion and misunderstanding among consumers. The conversion period from NAP to organic certification depends on toxic chemical residue in farm and the products which will not be detected any more according to analysis. Organic production should involve production techniques to prevent any contribution to the contamination of the environment. Agricultural inputs must be authorized by reliable institutes and certified as agricultural products for organic production. These rules for organic certfication by Associaion of Agricultural Technology in Southeast Asia (AATSEA) is subjected for activation or approval in any country who accept AATSEA to promote organic agriculture.

AATSEA has started to certify organic since 2015 in Laos, Vietnam, Cambodia, Myanmar, China, India and Thailand etc. It is promoted the farmers for organic certification to meet a standard for safety food and maintain natural balance for sustainable development goals (SDGs). In 2022, AATSEA has appointed the board of trustees for organic certification about 10 countries to consider the organic standard by AATSEA. The organic standard must not detect toxic agrochemicals, nitrate/ninrite, formalin, and low heavy metals at safety

level as well as *Escherichia coli, Salmonella* sp. etc. and non-GMO. Other standard requirements have also followed IFOAM standard. Moderm organic agriculture has promoted according to scientific research basis on agricultural inputs for organic agriculture (Soytong *et al.*, 2018). AATSEA has certified organic tea and organic resort in China, and certified agricultural inputs in India, Thailand and Vietnam etc.

Possible collaboration on organic certification

RusQuality is an organized and certified Russia Organics may possible be collaborated with AATSEA Organic certification for crops, animals, natural organics, anmd food processing etc in some acceptable countries. It is to exchange and trading the organioc products to each other according to market demand (Figure 1). Modern organic agriculture has based on scientific basis for agricultural inputs. Earthsafe foundation is powered by AATSEA organic certification that reliable to certify and sales in TOPS supermarket in Thailand. Furthermore, the certification of organic golf course and organic resort are considered by RusQuality-AATSEA organic standard as well.

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