Abstract. The stage of formation of organic agriculture has begun in Russia. According to the requirements of Russian legislation and international standards, organic agriculture provides for the production of organic products in conditions close to biological processes occurring in natural ecological systems. Organic agriculture should be based on a set of methods that ensure a viable ecosystem, safe food, healthy nutrition, animal health and social justice, and an organic product is a product that is produced in accordance with organic farming standards.

The system of state regulation of organic production in Russia is insufficiently formed and does not fully meet the modern requirements of international standards. The purpose of the study is to assess the compliance of Russian legislation with the requirements of international standards in the field of certification of organic production.

The laws introduce requirements for certification of only organic products themselves, which is insufficient to solve the tasks set by the state and the international community. The proposed model of ecological certification of organic production will meet the challenges in the field of organic agriculture, environmental protection, and organic products will meet international requirements and standards, which will contribute to the output of products on the Russian and international market.

1 Introduction

According to the IFOAM Basic Standards: Basic Standards approved by the IFOAM General Assembly (International Federation of Organic Agriculture Movements), organic agriculture is a holistic systematic approach based on a set of practices that ensure a viable ecosystem, safe food, healthy food, animal health and social justice, and organic product is a product that is produced in accordance with organic farming standards [7]. As noted in the scientific literature, the regulation of organic production in the world has taken place according to standards developed by farmers themselves, and is based on the principles of eliminating the negative effects of farming on the environment [8].

The standards for organic production formulated by IFOAM in relation to the environment can be summarised as follows - interactions with natural systems and cycles must be organised in a manner that does not interfere with their natural functioning; conserve and enhance biodiversity in organic farming and processing; conserve the natural condition of water resources; ensure long-term soil fertility; ensure the protection of plants and wildlife and birds; minimize the use of substances that pollute the environment; recycle organic products through the use of renewable resources; to produce fully biodegradable organic products [7].

Problems of legal regulation of production and certification of organic products in the Russian Federation are reflected in the works of Shcherbakova A.S. [2], Belyakova Z.Yu. [9], Martynushkin A.B., Martynushkin P.V. [10], Y.B. Kostrova [11], A. F. Ciech. [12], etc. A comparative analysis of the legislation of the member states of the Eurasian Economic Union in the field of organic agriculture was carried out in a study by E.S. Navasardova, A.N. Zakharin [13], state regulation of organic agricultural production in foreign countries - in the works of V.G. Kudryakov, V.A. Mironchuk, S.A. Esayan [14], N.A. Lukashuk, O.I. Rodkin [1] and others. Theoretical and methodological foundations of organic farming are presented in the works of foreign authors Rodale M. [15], Adams D.C., Salois M.J. [16], Cooper J., Baranski M., Stewart G. [17], Marsh L., Zoumenou V., Cotton C., Hashem F. [18], Jespersen L.M., Baggesen D.L., Fog E. [19], O'Mahony B. and Lobo A. [20], Roos E., Mie A., Wivstad M. [21], Dabbert S. [22], Holzer W. [24], Schmid O. [25].

According to many farmers, the main constraint hindering the rapid development of organic agriculture in the world is the high cost of production with low profitability of production [2, 9, 16, 18]. According to a survey conducted by Marsh L., Zoumenou V., Cotton C., Hashem F., among farmers only 10% are focused on organic production [18]. The risks and opportunities of increasing the yield of organic agriculture are described in the works of Adams D. C., Salois M. J. [16], Roos E., Mie A., Wivstad M. [21]. Tillage technologies in organic farming that support yields and increase soil carbon stocks are presented in Cooper J., Baranski M., Stewart G. [17]. According to Dabbert S., by introducing a variety of crop rotations, mechanical weed control methods, sustainable use of ecosystems in nature, hedgerows and biotopes can achieve environmentally friendly production [22]. Jespersen L.M., Baggesen D.L., Fog E. in their work analysed and highlighted positive and negative aspects, presented the basic principles of organic agriculture [19]. Manuals and handbooks on resources for the sector of organic food and
2 Materials and Methods

Results
### Table 1: Requirements for organic production in Russian legislation

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For environmental protection purposes</strong></td>
<td>Separation of organic production from non-organic production; Prohibition of the use of embryo transfer, cloning and genetic engineering techniques, genetically engineered and transgenic organisms, and their products; Ban on the use of hydroponic cultivation; Ban on the use of ionising radiation; Use of biological agents to control pests and diseases of plants and animals; Implementing measures to prevent losses caused by pests to plants or plant products, based on the protection of entomophages, the choice of plant species and varieties, optimum methods of crop rotation, plant cultivation and the thermal treatment of organic products; Selection of breeds or species of farm animals, taking into account their adaptive capacity and resistance to disease, creating conditions conducive to their health, veterinary welfare and natural reproduction; Ban on the use of agrochemicals, pesticides, antibiotics, animal growth and fattening stimulants and hormonal preparations; Prohibition of the use of packaging, consumer and transport containers that may cause environmental pollution, including the use of PVC for packaging and containers.</td>
</tr>
<tr>
<td><strong>For human health care</strong></td>
<td>Use of food additives, processing aids, flavourings, flavour enhancers, enzyme preparations, micronutrients, vitamins, amino acids as required by the standards in force; Prohibition of mixing organic products with non-organic products during storage and transport; Application of biological, including probiotic, microorganisms, use of measures to protect products of animal origin from microbiological spoilage; Ban on the use of agrochemicals, pesticides, antibiotics, animal growth and fattening stimulants and hormonal preparations; Prohibition of the use of packaging, consumer and transport containers that may lead to contamination of organic products.</td>
</tr>
</tbody>
</table>

Confirmation of compliance of organic production is in the form of voluntary certification with the requirements of legislation on technical regulation in order to establish compliance of organic production with national, interstate and international standards (Article 5 of the Federal Law “On Organic Products”).
the other hand, presuppose compliance of such production, including environmental regulation. In accordance with Article 2 of the Organic Law, organic agriculture shall be directed at ensuring favorable environmental conditions, that is, it shall meet the requirements of Article 42 of the Federal Law No. 7-FZ of January 10, 2002 “On the Protection of the Environment” (the “Environmental Law”): Compliance with environmental protection requirements, implementation of measures to preserve and restore the environment, rational use of natural resources, ensuring environmental safety, prevention of negative impacts on natural resources. Of all the listed requirements of the legislation on environmental protection and rational use of natural resources, the central mechanism for achieving the goals is land relations. As it is fairly noted Lukashuk N.A., Rod’kin O.I., “an important point in the international standards on production is the fact that first of all products obtained from a certain area can be certified as “organic”, on these areas must undergo a conversion or conversion from traditional agricultural activities for a certain period” [1].

A documented confirmation of the ecologically sound implementation of economic and other activities, including those in the agricultural sector, is environmental certification (Article 31 of the Federal Law “On the Protection of the Environment”). Consequently, the best solution to the task set by the Federal Law “On Organic Products” is the ecological certification of organic production.

In order to introduce a system of control over the use of land in the production cycle of organic products, we consider it necessary to introduce a unified state register of organic agricultural land. N.A. Lukashchuk and O.I. Rod’kin propose to divide land for organic production into three main types: arable land (mainly for growing grains, vegetables, fodder and industrial crops), land occupied by perennial plantations (vineyards, fruit and berry plantations) and permanent pastures [1]. Maintaining such an inventory will contribute to:

1) to isolate agricultural land for organic production, because organic production on land where chemical fertilizers and pesticides have been used for years is not possible. Organic farming must put fallow land and reclaimed land into circulation. This will take a long time and require large financial investments, at least during the transition period. The state must promote the formation of such land;

2) determine their suitability for organic production by soil analysis, which is necessary to reveal the original condition of the soil;

3) control of the use of such land by the state authorities;

4) serve as an indicator for evaluating the growth potential of the organic agricultural sector.

In order to promote organic products on the international market it is necessary to improve organic certification procedures. In the EU countries there is an International Commission Regulation in force, which operates in the key cycle “Plan. Implement. Verify. In contrast to the certification in Russia, the EU countries have - requirements are imposed on the quality of soils; - the auditor operates throughout the whole period of soil use, checks the entire list of fertilisers used at all stages of production.

3 Discussion

...
ENVIRONMENTAL CERTIFICATION FOR ORGANIC PRODUCTION

Section I. CERTIFICATION OF THE COMPLIANCE OF THE PRODUCTION OF ORGANIC PRODUCTS WITH ENVIRONMENTAL PROTECTION REQUIREMENTS

Compliance of agricultural production of organic products with the standards for permissible environmental impact;

Compliance with soil quality requirements (environmental standards and hygiene standards);

Application of the best available technologies (in pig and poultry breeding, slaughtering of animals in meat processing plants, meat and poultry slaughterhouses, production of food, drinks, milk and dairy products, etc.).

Section II. VALIDATION OF COMPLIANCE OF ORGANIC PRODUCTS WITH REGARD TO THE PROTECTION OF HUMAN HEALTH

Compliance of the agricultural production of organic products with the hygiene requirements of soil, packaging and transport;

Compliance with the hygiene requirements for the equipment and its cleaning of potentially contaminating materials before it is used in organic production;

Availability of a report on the origin, types, composition and use of products purchased and sold;

Absence of substances and methods which restore properties lost during processing and storage of organic foodstuffs, or which are applied in correcting the results of poor processing, or which may otherwise mislead as to the true nature of the organic foodstuffs in question;

Compliance with all legal and regulatory requirements, according to storage and labelling during transport.

ORGANIC PRODUCT CONFORMITY MARK (LABELLING)

4 Conclusions

The above measures of legal regulation of the current legislation in the field of organic agriculture in Russia will allow:

First, generate primary data on soil indicators,

E3S Web of Conferences 431, 07007 (2023) https://doi.org/10.1051/e3sconf/202343107007

ITSE-2023
Second, to monitor and control the quality of such land and compliance with environmental requirements, including environmental regulation.

Third, it will facilitate the certification procedure for organic production itself. Certification organizations would be able to apply to the state authorities for confirmation of the absence of violations of environmental legislation, to carry out the necessary analyses, to confirm the safety of organic agricultural products for human health and to issue a mark of conformity of the voluntary ecological certification of organic production.

The proposed procedure for ecological certification of organic production will meet the objectives in the field of organic agriculture, environmental protection, and organic products meet international requirements and standards, will serve as a guarantee and protection of consumers from unscrupulous producers, which will contribute to the entrance of products into the Russian and international markets.

References


7. E. A. Mitina, T. O. Bykova, Ecologically clean products: the issues of standardization, certification and state support of the producers, Food Policy and Security, 3(2), 91-104 (2016) https://doi.org/10.18334/ppib.3.2.35796


10. A. B. Martynushkin, P. V. Martynushkin, Russian market of organic products: problems of formation and ways to solve them, Scientific Letters of Russian Customs Academy the St. Petersburg branch named after Vladimir Bobkov, 2(74), 62-65 (2020)


13. E. S. Navasardova, A. N. Zakharin, Comparative analysis of the legislation of the EAEU member states in the field of organic agriculture, Humanities and law research 2, 141-146 (2019)


