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Food Quality Guarantee Systems as a Tool Supporting Biodiversity – Selected Examples

*Systemy gwarancji jakości żywności narzędziem wspierającym
bioróżnorodność – wybrane przykłady*

SUMMARY

The article attempts to present in legal terms activities that will play a supporting function in relation to biodiversity. These include food quality assurance systems (in particular, food production using traditional methods, using local raw materials), organic production and freedom from genetic recombination under the voluntary GMO-free labelling system. Due to the specifics of the study, the dogmatic method was used. It allowed the analysis of research material, which are the applicable provisions and draft EU regulations and national laws. In order to expand the issues and highlight the issues being the subject of the study, the method of content analysis and document analysis was used to show the relevance of the issue and its significant social significance. Critical interpretation of texts, in particular legal ones, in turn allowed to determine current trends. The views of the representatives of the science of law were analyzed, and to the extent necessary representatives of other sciences. Legal acts, legal monographs, comments and scientific articles were used. The analysis was aimed at demonstrating and emphasizing the multi-faceted and complexity of the issue.

Keywords: biodiversity; food quality assurance systems; regional product; traditional product; GMO-free

INTRODUCTION

The critical threshold for irreversible, avalanche destruction of the natural environment has already been exceeded¹. Man inhabiting the biosphere, i.e. the

¹ A. King, B. Schneider, *The First Global Revolution (Club of Rome)*, <https://archive.org/details/TheFirstGlobalRevolution/page/n21> [access: 5.11.2019].

largest known biological system, covering all living organisms in the world and their habitats, uses the components of the Earth's surface as natural wealth to acquire land for cultivation and development. It should be emphasized, however, that it excessively exploits mineral resources, introducing agricultural and technological innovations often violently pollutes the environment².

Due to these activities, the environment has changed significantly in terms of atmosphere, soils, groundwater and living beings³. It is estimated that since the middle of the century the planet has lost nearly one-fifth of the arable land, one-fifth tropical forests and many tens of thousands of plant and animal species⁴.

Due to such far-reaching and dynamically progressing changes, the issue of protecting the biosphere and preserving biodiversity is an important element. Legal solutions, including guarantees created as part of food quality systems, are becoming an important tool in this area.

AN ATTEMPT TO DEFINE THE CONCEPT OF BIODIVERSITY AND LEGAL REFERENCES

Biodiversity is essential for the evolution and sustainability of life support systems in the biosphere. In order to protect biodiversity, it is necessary to anticipate, prevent and combat the causes of decline or its disappearance. Biodiversity poverty is expressed through the loss of habitats, species extinction, and reduction of gene diversity in populations. That is why all activities that will sustain and fulfill a supporting function in relation to biodiversity are so important, such elements as organic production, production using traditional methods, using local raw materials or freedom from genetic recombination can be indicated here⁵.

Depending on the area, biodiversity is recognized in a differentiated way. Table 1 contains examples of references to this concept, both in linguistic and biological terms, as well as in legal references.

Table 1. Selected definitions of biodiversity

Author/Source	Definition
<i>Słownik języka polskiego PWN</i>	Biodiversity (in short: biodiversity) is a set of organisms (plants, animals, fungi) found on Earth, among others in arable fields and grasslands
B. Feledyn-Szewczyk, R. Kazimierzczak, E. Rembiałkowska, M. Staniak	Biodiversity (in short: biodiversity) is a set of organisms (plants, animals, fungi) found on Earth, among others in arable fields and grasslands

² W. Barabasz, A. Pikulicka, *Ochrona biosfery i bioróżnorodności*, „Inżynieria Ekologiczna” 2012, nr 30, pp. 7–16.

³ *Ibidem*, pp. 10–14.

⁴ T. Hallam, *Ewolucja i zagłada*, Warszawa 2006, pp. 35–42.

⁵ M. Głodowska, A. Gałązka, *Wpływ rolnictwa ekologicznego na środowisko w koncepcji rozwoju zrównoważonego*, „Wiś i Rolnictwo” 2017, nr 2(175).

Author/Source	Definition
B. Sozańska	In order to protect biodiversity, it is necessary to anticipate, prevent and combat the causes of decline or its disappearance
Convention on Biological Diversity, Rio de Janeiro, 5 June 1992	The variability of living organisms inhabiting all environments and the variability of ecological systems of which these organisms are part, with the variability thus understood includes intraspecific, interspecific and ecosystem diversity
European Commission materials	Biodiversity – the wealth of ecosystems, species and genes – is not only a value in itself, but also provides a wide range of necessary ecosystem services: food, fresh water, pollination, flood protection, etc.

Source: own study based on: *Słownik języka polskiego PWN*, Warszawa 2007; B. Feledyn-Szewczyk, R. Kazimierzczak, E. Rembiałkowska, M. Staniak, *Bioróżnorodność obszarów wiejskich – dobre praktyki rolnicze*, Warszawa 2016; B. Sozańska, *Bioróżnorodność a „Działanie rolno-środowiskowo-klimatyczne”*, Radom 2016.

From the perspective of this study, the legal aspect and its inclusion in the Convention on Biological Diversity is of particular importance⁶. The legal definition quoted in Table 1 was indicated there. The perspectives set out in EU documents that take into account biodiversity in EU policy are also important.

By 2050, biodiversity in the European Union and ecosystem services that it provides and which constitute its natural capital, will be protected, valued and will be appropriately restored due to the value of biodiversity in itself and their fundamental contribution to ensuring human well-being and economic prosperity so as to avoid catastrophic changes caused by the loss of biodiversity⁷.

INSTRUMENTS SUPPORTING BIODIVERSITY IN THE LAW SYSTEM

Agriculture and rural areas occupy the majority of the EU's area and are largely responsible for the use of its natural resources. Therefore, one of the main objectives of the Common Agricultural Policy (CAP) is to make fuller use of the potential of agriculture in achieving the Community's objectives related to preventing adverse effects on the environment. Particular emphasis is placed on limiting and adapting to climate change, protecting biodiversity and reducing water and air pollution⁸. Ten factors were selected that contributed the most to the progressive loss of biodiversity. The first three are in order: excessive exploitation of the environment,

⁶ Convention on Biological Diversity, Rio de Janeiro, 5 June 1992 (United Nations, Treaty Series, Vol. 1760, p. 79).

⁷ *Unijna strategia ochrony różnorodności biologicznej na okres do 2020 r.*, https://ec.europa.eu/environment/pubs/pdf/factsheets/biodiversity_2020/2020%20Biodiversity%20Factsheet_PL.pdf [access: 15.02.2020].

⁸ W. Poczta, A. Sadowski, W. Czubak, M. Matyka, M. Drygas, H. Skórnicki, *Reforma Wspólnej Polityki Rolnej po 2020 roku. Broszura informacyjna – materiały konferencyjne*, 2017, www.krir.pl/files/dopobrania/2017_09_24_CAŁOŚĆ_3.pdf [access: 10.02.2020].

agriculture and urbanization⁹. Unfortunately, it should be agreed that the natural richness of rural areas is threatened by the intensification and excessive chemisation of agricultural production, burning grass, as well as the abandonment of grasslands with low feed quality and valuable natural¹⁰.

It is also necessary to take action in the legal sphere to ensure increasingly effective tools and effective regulations contributing to maintaining biodiversity. The legal solutions of agricultural policy supporting biodiversity include:

1. Strategy for biodiversity protection up to 2020.
2. Program for the conservation and sustainable use of biological diversity along with the Action Plan for 2015–2020.
3. Poland's sustainable development strategy until 2025.
4. Natura 2000 network.
5. Rural Development Program.
6. Agri-environment-climate measure.
7. Organic farming.
8. European Union directives – the so-called Birds Directive and Habitats Directive.
9. Common Agricultural Policy: standards and cross-compliance requirements and greening¹¹.

The tools used to support biodiversity also include food quality assurance systems.

SETTLEMENT OF FOOD QUALITY GUARANTEE SYSTEMS IN LEGAL REGULATIONS

The concept of quality systems for agricultural products and foodstuffs is a legal concept. Currently, it appears in Regulation (EU) No. 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs¹².

⁹ S.L. Maxwell, R.A. Fuller, T.M. Brooks, J.E.M. Watson, *Biodiversity: The Ravages of Guns, Nets and Bulldozers*, "Nature" 2016, No. 536, pp. 143–145.

¹⁰ B. Feledyn-Szewczyk, R. Kazimierzak, E. Rembiałkowska, M. Staniak, *Bioróżnorodność obszarów wiejskich – dobre praktyki rolnicze*, Warszawa 2016, p. 53.

¹¹ Resolution No. 213 of the Council of Ministers of 6 November 2015 regarding the approval of the "Protection Program and sustainable use of biodiversity with the Action Plan 2015–2020" (M.P. item 1207).

¹² OJEU 343/1, 14.12.2012, hereinafter: Regulation 1151/2012. See also K. Dobieżyński, *Ewolucja podejścia do jakości żywności oraz podstawowe cechy systemów jakości produktów rolnych i środków spożywczych w Unii Europejskiej*, „Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie. Problemy Rolnictwa Światowego” 2013, z. 3, pp. 65–75.

Quality systems are generally divided into two types – consisting of certification and marking¹³. Product certification consists in the possibility of giving products a kind of certificates that certify that a given product has a specific additional value. Certificates provide high-quality agricultural products and foodstuffs, and are designed to support the development of rural economies, including “less-favored areas, mountain areas and the outermost regions, where the agricultural sector has a significant share in the economy and production costs are high”¹⁴.

Measures for the indicated agricultural product quality policy have been established, i.a., in legal acts such as:

1. Council Regulation (EEC) No. 1601/91 of 10 June 1991 laying down general rules on the definition, description and presentation of aromatized wines, aromatized wine-based drinks and aromatized wine-product cocktails¹⁵.
2. Council Directive 2001/110/EC of 20 December 2001 relating to honey¹⁶.
3. Council Regulation (EC) No. 247/2006 of 30 January 2006 laying down specific measures for agriculture in the outermost regions of the Union¹⁷.
4. Council Regulation (EC) No. 1234/2007 of 22 October 2007 establishing a common organization of agricultural markets and on specific provisions for certain agricultural products¹⁸.
5. Regulation (EC) No. 110/2008 of the European Parliament and of the Council of 15 January 2008 on the definition, description, presentation, labelling and

¹³ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on agricultural product quality policy, SEC(2009) 670, SEC(2009) 671, Brussels, 28.05.2009, COM (2009) 234, final. For the purposes of this study, selected food quality assurance systems have been identified, due to the limited scope they have not been presented, e.g. national systems such as: Quality Tradition, System, Quality Meat Program (QMP), Guaranteed Food Quality System (QAFP), Pork Quality System PQS (Pork Quality System), which are recognized in accordance with Article 15 (2) of the Act of 20 February 2015 on Supporting Rural Development with the Participation of the European Agricultural Fund for Rural Development under the Rural Development Program for 2014–2020 (Journal of Laws 2015, item 349). Pursuant to this provision, the minister competent for rural development recognizes, by way of an administrative decision, the quality systems referred to in Article 16 (1) (b) of the Regulation (EU) No. 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EU) No. 1698/2006 (OJ EU L 347/487, 20.12.2013), if certain criteria are met. See Ministerstwo Rolnictwa i Rozwoju Wsi, *Krajowe systemy jakości żywności*, www.gov.pl/web/rolnictwo/krajowe-systemy-jakosci-zywnosci [access: 8.04.2020].

¹⁴ Regulation 1151/2012.

¹⁵ OJ EU L 149/1, 14.06.1991.

¹⁶ OJ EU L 10/47, 12.01.2002.

¹⁷ OJ EU L 42/1, 14.02.2006.

¹⁸ OJ EU L 299/1, 16.11.2007.

protection of geographical indications of spirit drinks and repealing Council Regulation (EEC) No. 1576/89¹⁹.

The organic farming system is a directly related issue in which the existence of cross-relations can be indicated.

ORGANIC FARMING

The position of the European Commission indicates that organic production is included in quality assurance systems²⁰. At the level of legal solutions at the European level, the organic farming system is regulated by, i.a, Council Regulation (EC) No. 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No. 2092/91²¹. According to this legal act, organic production is a general farm management and food production system, combining the most environmentally beneficial practices, a high degree of biodiversity, protection of natural resources, the application of high animal welfare standards and a production method meeting the requirements of some consumers preferring articles manufactured using substances natural and natural processes. Pursuant to the provisions of the Regulation 834/2007, the organic production method, on the one hand, provides goods to a specific market shaped by the demand for organic products, and on the other hand is an activity in the public interest, because it contributes to environmental protection, animal welfare and rural development, and affects maintenance biodiversity. Organic farming is a management system closely related to the quality of the natural environment.

Regulation 834/2007 is not the only legal act regulating the broadly understood organic production. The subject matter also applies to the Commission Regulation (EC) No. 710/2009 of 5 August 2009 amending Regulation (EC) No. 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No. 834/2007, as regards laying down detailed rules on organic aquaculture animal and seaweed production²². Pursuant to Regulation 710/2009 aquatic areas where organic seaweed is grown and aquaculture animals are kept are essential for obtaining safe, high-quality products with minimal impact on the aquatic environment. At the same time, the EU legislator emphasizes that organic animal production in the aquaculture sector should ensure that animals meet their species needs. It should be

¹⁹ OJ EU L 39/16, 13.02.2008. See Proposal for a Regulation of the European Parliament and of the Council on agricultural product quality schemes, Brussels, 10.12.2010, COM/2010/0733 final, COD 2010/0353.

²⁰ P. Dévényi, *The New Proposal on Agricultural Product Quality Schemes – Quality Legislation on Quality Questions?*, "European Food & Feed Law Review" 2011, No. 3.

²¹ OJ EU L 189/1, 20.07.2007, hereinafter: Regulation 834/2007.

²² OJ EU L 204/15, 6.08.2009, hereinafter: Regulation 710/2009.

noted that this area also has a significant impact on maintaining biodiversity. Both the provisions of Regulation 1151/2012 and 834/2007 also specify the principles on which the inspection is to be carried out under the quality systems in question²³.

From 2021, new regulations will come into force, their aim will be to harmonize EU regulations, and thus national solutions. The regulations introduced are designed to support organic production in the EU, guarantee the competitiveness of organic farms and protect consumers against fraud and unfair practices on the part of producers. In view of the above considerations, the proposed changes should be considered as a justified trend also in the field of supporting biodiversity.

The goal of organic farming should not only be the production of high-quality agricultural produce, but also the protection of environmental resources, including biodiversity. Agricultural activity, depending on the intensity of farming, may be conducive to maintaining or even increasing biodiversity or limiting the species richness and abundance of various organisms occurring in arable fields and grasslands. Conventional agriculture, which uses simplified crop rotation and uses large amounts of mineral fertilizers and chemical plant protection products, contributes to the reduction of biodiversity of organisms present in arable fields. The organic farming system is fundamentally different from other agricultural production systems in that it excludes the use of synthetic mineral fertilizers, chemical plant protection products, growth regulators and synthetic feed additives specific to conventional farming. It is based on natural, technologically unprocessed agents²⁴. In the agricultural production in the ecological system, environmentally friendly production methods are used, which significantly support biodiversity, taking into account, i.a., feed and fertilizer balance, farm self-supply, varied crop rotation with long rotation, with bean plants and catch crops, appropriate selection of plant species and varieties cultivated, proper selection of animal breeds, natural fertilizers, green manures, plant protection without chemicals, care for animal welfare²⁵.

Species diversity in the ecological system is 30–50% greater than in the conventional system. Organic farms also found a greater number of rare species, threatened with extinction, which means that these farms are their refuge²⁶.

The ecological management system protects the food base and creates shelter for numerous species. The lack of pesticides attracts new species of wild plants and animals as well as beneficial organisms such as predatory and pollinating insects that colonize organic farming.

²³ K. Dobieżyński, *op. cit.*

²⁴ J. Kuś, *Systemy gospodarowania w rolnictwie. Rolnictwo integrowane*, Materiały szkoleniowe 42/95, IUNG Puławy.

²⁵ B. Feledyn-Szewczyk, R. Kazimierzczak, E. Rembiałkowska, M. Staniak, *op. cit.*, p. 78.

²⁶ *Ibidem*, p. 82.

REGIONAL PRODUCTS

Almost in parallel with the regulation on organic production, regulations were created at the EU level to protect broadly defined geographical indications. The regional product is to be an alternative to a mass-produced product, a widely available conventional product. When defining a regional product, it is undoubtedly necessary to take into account the existence of a dual spatial and qualitative relationship, which must appear together. The regional product must always be accompanied by the appropriate quality and the resulting reputation. Regional products must be associated with a specific geographical area and have specific characteristics, e.g. resulting from the specific climate and soil conditions of the region²⁷.

Regional product in EU law is defined by a protection system created initially under Council Regulation (EEC) No. 2081/92 of 14 July 1992 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs²⁸, then modified in Council Regulation (EC) No. 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs²⁹ in order to obtain the current shape in Regulation (EU) No. 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs³⁰. Under this system, the names of regional products are registered as Protected Geographical Indications (PGI) and Protected Designations of Origin (PDO). The condition for the product to be covered by the EU protection system is an objective relationship between the quality or characteristics of the product and its geographical origin³¹.

The provisions of Regulation 1151/2012, in particular, are to support the development of less-favored areas, mountain areas and the outermost regions, where the agricultural sector has a significant share in the economy and production costs are high.

It should be emphasized that in the production of regional products old species and varieties of arable crops are used. They are usually distinguished by low technological requirements, better adaptation to environmental conditions, resistance to diseases and pests and low yield failure. Most of them can be successfully grown in low-input agricultural production systems. The production of regional products increases the species and variety diversity of crops, which prevents simplification of crop rotation and ensures the diversity of habitats. As part of their production,

²⁷ J. Jasiński, *Wyróżnianie produktów regionalnych na rynku i wynikające z tego korzyści*, [in:] *O produktach tradycyjnych i regionalnych. Możliwości a polskie realia*, red. M. Gąsiorowski, Warszawa 2005, p. 304.

²⁸ OJ EU L 208/1, 24.07.1992.

²⁹ OJ EU L 93/12, 31.03.2006.

³⁰ OJ EU L 343/1, 14.12.2012.

³¹ Regulation 1151/2012.

there is less cultivation requirement, which reduces fertilization and plant protection products and significantly contributes to maintaining biodiversity³².

However, agricultural progress has led to the loss of around 75% of crop plant genetic resources over the past 100 years due to farmers abandoning traditional, local, less fertile varieties and replacing them with intensive varieties³³. Farmers producing regional products are, therefore, both guardians and users of biodiversity by favoring traditional and local varieties of plants and farmed animals due to their greater resistance to disease and stress related to climate conditions³⁴.

TRADITIONAL PRODUCT

A broader concept in relation to a regional product is a traditional product. Traditional products are a group of selective products similar to regional products. Both product groups are characterized by the fact that they have special features that distinguish these products from other products available on the market. As already presented, the distinctive feature is the degree of connection with the region: in the case of regional products – very strong, in the case of traditional products – not necessary. However, unlike regional products, traditional products do not have to owe their geographical origin. It is sufficient for them to be produced in a traditional manner or reflecting traditional production and/or processing methods. Traditional methods are considered to be methods that are characterized not only by a specific production specificity but also by the fact that they are known and used for a long time³⁵.

Traditional products may be placed on the Traditional Products List (TPL) at the initial stage of applying for registration in the EU system. This is a ministerial list of products whose quality or unique features and properties result from the use of traditional production methods, established under the Act of 17 December 2004 on the Registration and Protection of Names and Designations of Agricultural Products and Foodstuffs as well as on Traditional Products³⁶. A product applying for such an entry should be an element of the identity of the local community and belong to the cultural heritage of the region where it comes from. The task of the

³² G. Hodun, W. Podyma, *Zachowanie zagrożonych zasobów genetycznych roślin w rolnictwie*, Warszawa 2011, p. 32.

³³ A. Berbeć, *Bioróżnorodność i usługi ekosystemowe w rolnictwie*, „Wies Jutra” 2014, nr 2(179), pp. 1–4.

³⁴ *Rolnicy jako partnerzy w ochronie środowiska*, www.kalendarzrolnikow.pl/7137/rolnicy-jako-partnerzy-w-ochronie-srodowiska [access: 12.02.2020].

³⁵ M. Żuchowska-Grzywacz, *Produkt regionalny z mleka i jego przetworów. Wybrane aspekty prawne*, Radom 2015, p. 117.

³⁶ Journal of Laws 2005, No. 10, item 68.

TPL is not to protect product names, but to deepen consumers' knowledge of the culinary heritage and traditional food. The TPL aims to increase consumer interest in these products, which in turn translates into increased sales of a traditional product, increasing the profitability of its production. In addition, the TPL creates the opportunity to apply for derogations from production requirements that are imposed, e.g., on large manufacturing plants. However, these deviations must not affect the quality or health of the products. The production of traditional products is directly connected with the cultivation of local and traditional varieties and based on non-mechanical methods, which directly serve to support biodiversity.

For the sake of order, it should be noted that at present regulations regarding the Traditional Specialty Guaranteed (TSG) have been placed next to solutions related to PDO and PGI in one legal act – Regulation 1151/2012 of 21 November 2012 on quality systems for agricultural products and foodstuffs.

To be considered a Traditional Specialty Guaranteed, the product must be produced using traditional raw materials or have a traditional composition, production or processing method. These are the elements that make it stand out from conventional products. Unlike Protected Designation of Origin and Protected Geographical Indication, Guaranteed Traditional Specialty products can be produced throughout the Community, provided the specifications are met³⁷.

Two important regulations – of the Minister of Agriculture of 27 July 2007³⁸ and of the Minister of Health of 18 February 2009³⁹ – provide producers of regional and traditional products with the possibility of legal production using traditional methods, tools and in a natural environment. Establishments producing traditional food of animal origin may derogate from certain hygiene requirements for the method of production of animal or non-animal products, where such derogations are necessary to preserve the traditional character of those products. This, of course, is without prejudice to the safety of these products. As in the case of regional products, from the point of view of the protection of species diversity and human health, the promotion of old and local plant species and varieties grown in the past and old animal breeds widely used in traditional production is highly desirable.

³⁷ Ministerstwo Rolnictwa i Rozwoju Wsi, Biuro Oznaczeń Geograficznych, *Broszura informacyjna*, Warszawa 2012, p. 3.

³⁸ Regulation of the Minister of Agriculture and Rural Development of 27 July 2007 on general deviations from hygiene requirements in plants producing traditional food of animal origin (Journal of Laws 2007, No. 146, item 1024).

³⁹ Regulation of the Minister of Health of 18 February 2009 on general deviations from hygiene requirements in plants producing traditional non-animal food (Journal of Laws 2009, No. 37, item 294).

VOLUNTARY LABELLING SYSTEM FOR “GMO-FREE” FOOD PRODUCTS

GM food is a controversial issue. On the one hand, there are increasing voices of opposition to the introduction of new varieties containing GMOs. On the other hand, in developing countries one can observe the growing importance of GMO crops as giving hope for cheap food. Under EU solutions, there is a legal definition of GMO food, contained in Regulation (EC) No. 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed⁴⁰. According to this act, genetically modified food is food containing GMOs, consisting of or produced from GMOs. These are not only food products wholly or partly consisting of GM organisms, but also those that, although they do not contain the GM organism, have been partly or fully produced from it (oil, sugar).

Due to doubts that arise in connection with the use of GMOs in food, producers in some countries have the option of voluntarily labelling products as GMO-free. The “GMO-free” labelling has been used for almost 10 years in several EU countries, including Germany, Austria, France, Italy and Slovenia. In Poland, on 1 January 2020, the Act of 13 June 2019 on the Labelling of Products Produced Without the Use of Genetically Modified Organisms as Free from these Organisms entered into force⁴¹.

Based on the research, we can try to analyze the references of GMO crops to biodiversity. Positions are divided in this respect. On the one hand, in 2007 the International Union for Conservation of Nature stated that there are no arguments for GMOs to directly reduce biodiversity⁴². It is also believed that GMOs are more efficient than conventional crops and that its use has prevented deforestation of 91 million ha of forest as it requires less arable land than traditional crops⁴³.

It is indicated that the cultivation of modified MON810 maize affects the change of biodiversity, threatens soil fauna, flora and soil bacteria. Studies have confirmed that Bt corn changes the composition of soil bacterial syndromes. It has been observed that the cultivation of Bt maize can change neighboring aquatic ecosystems. Bt toxin was also found in river waters near GM corn fields. There is also a potential threat to wild ecosystems. Between 20% and 25% of plant species, sporadic gene exchange occurs, mainly through interspecific crosses. Thus, the frequent horizontal

⁴⁰ OJ EU L 268, 18.10.2003.

⁴¹ Journal of Laws 2019, item 1401.

⁴² *Current knowledge of the impacts of genetically modified organisms on biodiversity and human health. An information paper*, http://cmsdata.iucn.org/downloads/ip_gmo_09_2007_1_.pdf [access: 23.11.2010].

⁴³ *Dziesięć statystyk dotyczących GMO*, www.farmer.pl/fakty/swiat/aktualnosci/dziesiec-statystyk-dotyczacych-gmo,44775.html [access: 10.02.2020].

gene transfer observed in nature concludes that the penetration of new transgenes into wild plants and other organisms in wild nature is a matter of time⁴⁴.

In view of the above, it should be concluded that supporting the voluntary “GMO-free” system can contribute to increasing biodiversity by eliminating GMO-using foods.

CONCLUSIONS

Agriculture and rural areas occupy the dominant part of the Earth's surface and to a large extent ways of using these resources directly affect biodiversity. It provides it in agriculture: maintenance of soil structure and fertility, pollination of crops, biological control, prevention of soil erosion, nutrient circulation, control of water flow and distribution. Biodiversity is defined in various scientific fields, including legal provisions. Maintaining biodiversity is necessary to maintain ecological functions and processes that ensure soil fertility and productivity of agricultural ecosystems, as well as for the proper functioning of agricultural ecosystems and makes farmer activities and agricultural production more sustainable and profitable. In the face of dynamically progressing changes, it is becoming important to search for tools that support the preservation of biodiversity. Legal regulations, including guarantees created as part of food quality systems, organic farming or voluntary labelling systems, are becoming an active element of support.

In the field of organic farming, the production of high-quality food and at the same time the protection of the natural environment are a priority. Organic production is based on the use of environmentally friendly farming methods, uses natural processes occurring in ecosystems with a large diversity of plants and animals, ensures proper animal welfare, thus supporting the maintenance of high biodiversity. Ecological management, which does not use synthetic mineral fertilizers and chemical plant protection products, has a positive impact on biodiversity.

A wider introduction of this management system in agricultural areas may offset the unfavorable trends associated with the decline of biodiversity in arable fields due to the intensification of agriculture. It should be noted, however, that currently the area of organic farming is still too small to play an important role in protecting biodiversity. Therefore, it should be emphasized that the proposed legislative changes to stimulate the production increase of organic products are highly desirable.

Biodiversity can be protected on a global, continental or national basis, but the most effective way to protect it is to protect biodiversity on a regional basis. This task is fostered by the continuation of traditional, extensive farms, the transforma-

⁴⁴ *Ibidem*.

tion of intensive farms into more sustainable farms, including support for farmers producing regional and traditional products. The created legal framework, allowing to use, i.a., justified derogations, is an important support mechanism for this sector of agriculture. From the point of view of the protection of species diversity and human health, old and local plant species and varieties cultivated in the past and old animal breeds should be promoted. The production of regional and traditional products is directly connected with the cultivation of local and traditional varieties and based on non-mechanical methods, which directly serves to support biodiversity.

Controversy regarding the impact on biodiversity can be seen in the field of GM food. On the one hand, research indicates that it remains indifferent or even has a positive impact on maintaining biodiversity. On the other hand, it can be observed that GMO crops have an impact on changing biodiversity, threatening, i.a, soil fauna, flora and soil bacteria. Currently, there is a dynamic trend amongst others: EU countries moving away from crops with the participation of GMOs, which is reflected in the changes in national law planned for 2020, introducing a voluntary labelling system “free from GMOs”. Preservation of the original varieties and species that are not subject to artificial recombination seems to be the natural way to successfully maintain biodiversity. Hence, supporting producers wishing to join the voluntary GMO-free labelling system appears to be justified from a biodiversity perspective.

It should, therefore, be emphasized that farmers’ participation in food quality assurance systems, organic production and voluntary systems can make a significant contribution to maintaining biodiversity.

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STRESZCZENIE

W artykule podjęto próbę zaprezentowania w ujęciu prawnym działań, które będą pełnić funkcję wspierającą względem bioróżnorodności. Wśród nich znajdują się systemy gwarantowania jakości żywności (w szczególności wytwarzanie żywności z zachowaniem tradycyjnych metod, z użyciem lokalnych surowców), produkcja ekologiczna oraz wolność od rekombinacji genetycznej w ramach dobrowolnego systemu znakowania „wolne od GMO”. Z uwagi na specyfikę opracowania wykorzystano metodę dogmatyczną, za pomocą której przeprowadzono analizę materiału badawczego składającego się z obowiązujących przepisów oraz projektów rozporządzeń unijnych i ustaw krajowych. W celu rozszerzenia problematyki i uwypuklenia zagadnień będących przedmiotem opracowania wykorzystano metodę analizy treści i analizy dokumentów, dzięki czemu ukazano aktualność zagadnienia i jego istotne znaczenie ze społecznego punktu widzenia. Krytyczna interpretacja tekstów, w szczególności

prawnych, pozwoliła z kolei określić aktualne trendy. Analizie poddano też poglądy przedstawicieli nauki prawa oraz (w niezbędnym zakresie) przedstawicieli innych nauk. Ponadto wykorzystano akty prawne, monografie prawnicze, komentarze oraz artykuły o charakterze naukowym. Przeprowadzona analiza miała na celu wykazanie i zaakcentowanie wieloaspektowości i złożoności zagadnienia.

Słowa kluczowe: bioróżnorodność; systemy gwarantowania jakości żywności; produkt regionalny; produkty tradycyjne; produkty wolne od GMO