THE APPLICATION OF SOME PROTECTIVE ECOLOGICAL MEASURES IN AGRICULTURAL PRODUCTION UNDER EU LEGISLATION

Abstract. The article is devoted to fundamental principles of EU agricultural policy in terms of ecological measures in agriculture, the usage of which is stimulated by economic mechanism of agricological programs (direct payments for farmers within the frameworks of Regulation 1307/2013 of the European Parliament and of the Council). The evolution of reformation of Common Agriculture Policy has been studied in the context of greening. The greening of the agricultural production can be reached through crop diversification, the maintenance of permanent pasture and the respect of ecological focus areas, which have a positive impact on relief of soil, natural resources conservation and ecosystem restoration. The special attention in the article is focused on necessity to provide complex approach to solution of problem of permanent environment degradation because of agriculture. Achievement of sustainable development goals in the context of taking into account economic, environmental and social factors is possible through correlation of updated agricultural practices, intensification of agricultural production by innovative technologies in the agricultural sector of the economy and the need to protect the environment, preserve valuable natural resources and ecosystems.

Key words: greening of agriculture, ecological measures, Common Agriculture Policy, nature conservation, preservation of biodiversity.

Introduction
In the context of globalization processes in the European space, the question arose of reforming the EU Common Agricultural Policy (hereinafter referred to as the CAP) and changing the orientations on predatory uncontrolled use of natural resources, especially agricultural land, in order to increase agricultural production for environmentally balanced use. To preserve the unique properties of land, water and forest resources, which

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are the most important components of life ecosystems.

At the European level, the conceptual foundations of a new vision of the economy through the lens of stability, competitiveness, socio-financial growth are laid down in the Europe 2020 Strategy, which establishes additional incentives for farmers to apply green farming practices that go beyond the basic requirements of the system of norms required receiving EU assistance and complementing existing agri-environmental programs [1].

Seven key areas of cooperation are in place for the implementation of the priorities set out in the Strategy, including the Resource Efficient Europe Initiative, which seeks to support change towards a resource efficient, low carbon and green economy, as well as linking economic growth and use of natural resources and energy [1].

The key provisions for the strategic development of EU economic and environmental relations are laid down in the EU’s eighth Horizon 2020 Framework for Research and Technology, which provides food security, sustainable agricultural and bioeconomy development, safe, clean and efficient energy, climate change, efficient the use of resources and raw materials are recognized as major priorities among social challenges [2].

The mechanism of implementation of the principle of greening of agricultural production in European policy is provided by the Resolution of the European Parliament of 23.06.11 “Common agricultural policy 2020: food, natural resources and territorial challenges” [3].

The European Community has recognized that the inclusion of renewed and ambitious goals in the CAP, including those related to consumer protection, environmental protection, animal welfare and regional cooperation, are the highest standards to be protected internationally. Long-term productivity and food security depend on the proper care of natural resources, especially soil, water use and biodiversity. The agricultural sector of the economy is crucial for combating climate change, especially by reducing greenhouse gas emissions, carbon sequestration and biomass production. Thus, the integration of environmental issues into the CAP is aimed at reducing the risks of environmental degradation and improving agro-ecosystems.

Agriculture makes a significant contribution to the support of unique rural areas. Agricultural land management was a positive force for the development of a rich diversity of landscapes and animal habitats, including wetlands, afforestation, and extensive open countryside. In addition, agricultural development contributes to the fight against climate change, job creation through the stimulation of economic growth with environmentally efficient use of natural resources and the use of renewable energy sources [3]. On the other hand, the pristine nature and landscape value of landscapes have made rural areas more attractive for business, housing, tourism and recreational businesses.

Many animal habitats in Europe are supported by extensive agriculture, and the survival of a wide array of wildlife
is dependent on farming practices. However, improper farming and land use can have an adverse effect on natural resources: soil, water and air pollution, fragmentation of wildlife habitats, and loss of biodiversity.

All of the above dictated the need for accelerated “green” development through the introduction of innovation, the implementation of new technologies, the development of new products, changes in the production process and support the nature of demand, especially in the context of the emergence of the bioeconomy [3].

The CAP identified three priority areas of the updated agricultural policy: 1) conservation of biodiversity, development of farming and forest systems, as well as traditional agro-cultural landscapes; 2) use of water resources; 3) the area of climate change regulation. These rules meet the requirements of the environment, and the CAP measures will promote the development of agro-cultural practices, preserving the environment and protecting the countryside [4].

The support of agro-technical methods aimed at protecting the environment, preserving the countryside and improving the livelihood of animals are essential elements in achieving the goals of agricultural and environmental policies. Such support should provide for: (a) ways of utilizing agricultural land in accordance with the objectives of the environment, landscapes, natural resources, soil and genetic diversity; b) ecological extensification of agricultural production and management of low-productive pastures; c) the use of environmental planning in agricultural activities; d) improving the conditions of animal keeping [5].

1. Materials and methods

In order to achieve the goals and objectives of the work, a complex was applied to identify the features of legal regulation and implementation of environmental measures, as well as to find out their effectiveness for environmental protection during agricultural activities in the EU, which involves the use of conglomerate of both general scientific and special methods of scientific cognition: dialectical, historical, formal-legal, hermeneutic, comparative-legal, structural-functional and method of abstraction. These methods were used in their interconnectedness and interdependence, which allowed a comprehensive, objective and comprehensive solution to the task of work and formulate scientifically sound conclusions.

The dialectical method of cognition allowed: on the one hand, to identify the interdependence of the existence of (common link) environmental and agrarian policies in the context of environmental security requirements, biodiversity conservation and enhancement of the agricultural sector of the economy through the production of competitive agricultural products in the EU; on the other hand, this method contributed to the detection of the genesis of the application of environmental protection measures in agricultural production in EU legislation. In addition, the dialectical method has contributed to the comprehensive justification of the laws governing the formulation of EU legislation.
in the field of research, as well as its constant updating and dynamics.

Using the historical method, the genesis of the substantive essence of such a phenomenon as greening in agricultural production has been elucidated. In particular, at the initial stage of birth, greening was dispositive, that is, applied to agricultural entities only if environmental requirements were met in particularly vulnerable areas. Subsequently, such measures were envisaged by agri-environmental programs and were of an imperative nature.

The use of the formal-legal method allowed to obtain reliable information on the state of legal regulation of crop diversification, maintenance of permanent pastures and establishment of ecological priority areas, as well as to determine the internal construction of EU legislation in the field of greening agricultural production.

The interpretation and interpretation of EU regulations on the legal regulation of the application of environmental protection measures in agriculture were carried out using the hermeneutic method.

The use of a comparative legal method of scientific cognition has made it possible to carry out a comparative analysis of the effectiveness and feasibility of using environmental protection measures in some EU countries. In particular, this method contributed to the conclusion that the effectiveness and success of the implementation of these measures directly depends on the level of development of the state, its political and legal orientations and economic ambitions and economic stability of the country. The most widespread use of agri-environmental programs, their positive impact on the achievement of the Sustainable Development Goals, is observed in the most economically advanced countries with high standards of living, while some countries are pursuing agrarian policies to increase the economic attractiveness of the country rather than the introduction of greening into agriculture.

Crucially important in achieving the goals of this scientific article was the structural-functional method that helped to identify the characteristics of environmental protection measures used in agricultural activities as structural elements of a single interdependent system of measures to implement the principles of greening. In addition, this method has helped to identify the place of these measures in the EU agricultural policy system, as well as their uniqueness and features among the system of all environmental measures.

The method of abstraction made it possible, among all the variety of means to ensure the implementation of the principle of greening agricultural activities on the European continent, to identify specific features of such environmental measures as diversification of crops, support of permanent pastures and establishment of ecological priority areas.

Using the method of analysis, it was possible to conclude on the axiological role of each type of environmental action in agriculture and its impact on overcoming the ecological crisis, preserving natural ecosystems, improving the status of water, land, forest resources, combating climate change and sustaining biodiver-
It is established that the implementation of the investigated means is able not only to contribute to the achievement of environmental goals, but also to ensure the economic prosperity of the country.

2. Discussion and results

2.1. Greening of agricultural production

The CAP reform process should include a comprehensive approach to addressing the development of the agricultural production sector and, at the same time, the environmentally-balanced use of natural resources during agricultural activities.

Greening is considered as a modern line of activity of agricultural producers based on the use of ecological and economic management methods in order to ensure comprehensive restoration of natural resources by forming a sustainable ecological and economic system, increasing the production of competitive and environmentally safe products, creating an agrarian system through the use of environmental methods [6, c. 9].

The first series of agri-environmental measures in the CAP was integrated in the 1980s and was aimed at making payments to farmers involved in the process of protecting green areas [7]. The concept of “agro-ecology” was first applied in the UK, but later this agro-ecological tool was extended to other member states and towards the end of the 1980s has acquired a contractual form of cooperation between public authorities and farmers who have applied green land management practices for agricultural land.

In the 90’s of the twentieth century, agri-environment programs have been extended to compensate for lower control prices and mandatory acreage reduction. Measures aimed at reducing production residues that began to emerge from the introduction of dairy quotas in 1984 were introduced to the CAP in 1992 in order to pay compensation for arable (field) crops. In this context, the second wave of agri-environmental programs was aimed at providing compensation for the lower guaranteed price and implementation of mandatory acreage reduction [8, p. 3–4].

Today, all EU Member States have their own agro-environmental programs, prioritizing rural development plans and achieving environmental goals. In general, the richer EU countries (Finland, Ireland, the United Kingdom, Austria, Sweden and Denmark) prioritize far more agri-environmental programs than the poorer countries (Bulgaria, Romania and Malta), which focus on socio-economic and social cohesion. Thus, the advantage given to agri-environmental programs in a country or region is not only a reflection of the ecological status of agricultural landscapes, but also their formation is influenced by the socio-economic situation [8, p. 8].

According to the European Parliament Resolution of 23.06.11 “Common Agricultural Policy 2020: Food, Natural Resources and Territorial Challenges”, the list of measures that can be applied in the agricultural sector also includes: 1) support for low carbon emissions and measures to reduce greenhouse gas emissions; 2) supporting low energy consumption and promoting energy effi-
The purpose of this environmental event is, first and foremost, to protect and protect the soil and improve its quality, since sowing monocultures in one area for a long time can lead to soil disturbance, poor quality, and drying and re-compacting. The implementation of this measure by farmers is also aimed at providing environmental public benefits and mitigating the effects of climate change.

According to paragraph 1 of Art. 44 of Regulation (EC) No 1307/2013 “On the establishment of rules for direct payments to farmers under the common agricultural policy programs” farmers holding arable land with an area of 10 to 30 ha must grow at least two cereals, and Farms with more than 30 ha – 3 cereals. Main grain crops should not cover more than 75% of the land [10].

Although this rule is imperative in the activities of agricultural producers, several flexible provisions are permitted in the area of application of the crop diversification rules.

Yes, the norm of item 1 of Art. 44 of that Regulation does not apply, for example, to holding companies where more than 75% of the eligible arable land is permanent pasture and used for the production of grasses, other plant fodder or crop underwater for much of the year or agricultural cycle, provided that arable land covered by these uses do not exceed 30 hectares [10].

In 2016, 75% of arable land in the EU was subject to such an environmental measure as crop diversification, with up to 63% applying the rule of planting three crops and 12% of arable land being...
diversified by two crops. The percentage of arable land that is diversified in every European country also differs: for example, in the Czech Republic and Hungary 90% of the land is subject to this environmental measure, while in Greece or Malta – less than 50% [11, p. 37].

Member States should ensure that a list of nitrogen-fixing crops is established in accordance with established principles, the cultivation of which will contribute to the achievement of biodiversity goals. The number of landings of such crops is allowed within 4–19 units. The most popular are horse beans, peas, alfalfa, lupines and clovers, which must be presented during the growing season. EU Member States should also lay down rules where nitrogen-fixing crops can be grown in order to avoid the increased risk of leaching in the fall. These rules should take into account the requirements of Directive 91/676 / EC on the protection of waters against pollution caused by nitrates from agricultural sources (Nitrate Directive) [12] and the Water Framework Directive 2000/60 / EC establishing a framework for Community action in the field of water policy [13, c. 26].

In some countries, alternative crop diversification practices are being applied to the practice of greening agricultural production. For example, France has a certification system for maize producers. Farmers who are members of this system are allowed to place winter ground cover with the help of vegetation cover from sown crops on all their arable land, which is a very similar measure of crop diversification. The essence of this measure is that maize producers have to grind and mulch their residues, which can have a positive environmental impact, as they remain environmentally friendly, since such residues provide coverage, guarantee the presence of nitrogen fixers and organic matter in the soil and allow control of pests and pests. [13, p. 48].

2.2.2. Maintenance of permanent pastures

Permanent pastures should be understood as land used for the cultivation of grasses or plant fodder naturally (self-propelled) or by cultivation and not included in crop rotation for 5 years or more. The definition of permanent pasture is first provided in EU Regulation 2017/2393 of the European Parliament and of the Council of 13.12.2017 [14], which amended Regulation 1305/2013.

The legal regime of permanent pasture is laid down in EU Regulation 1307/2013 of 17.12.2013 “On establishing rules for direct payments to farmers according to the programs under the common agricultural policy”. Thus, according to Part 2 of Art. 45 of this Regulation, Member States must provide at least 5% of permanent pasture in relation to the total area of agricultural land [10].

In the same case, if the proportion of permanent grassland at regional or national level is less than 5%, the Member State concerned shall be obliged to return the land previously transferred to it for other uses and to grant that land the status of permanent grassland. This rule does not apply where the reduced percentage of permanent grassland is the result of arable planting in accordance
with environmental requirements and does not include short rotation plantations, spruce trees or fast-growing trees for energy production [10].

Establishing a proper conservation regime for such pastures is of conceptual importance for ensuring the integrity of the ecosystem functions of natural resources and preserving biodiversity. For example, permanent pastures perform important functions for the protection of water resources.

For example, a study of the effectiveness of permanent pastures and their impact on water resources, conducted on the example of Poland, in which such pastures cover 21% of agricultural land and 13% of the total area of the state, indicates their ability to prevent soil erosion. This is due to the fact that the pollutants remaining on the surface of the pasture or alkali decompose rapidly due to the intensive biological activity of the soil microorganisms associated with the pasture ecosystems and the saprophytic activity of the mesofauna, thus making the pastures the role of biofauna. [59].

As the problems of biodiversity conservation in the current context of globalization processes, on the one hand, and the requirements for greening the agrarian sector of the economy, need correlation, some EU Member States are embarking on a comprehensive approach to addressing these problems based on relevant European legislation and common protection instruments, including through the system of specially protected natural areas, the legal regime of which is determined by Council Directive 92/409 / EEC of 2 April 1979 on birds and Council Directive 92/4 3 EEC of 21 May 1991 on the protection of the natural habitats of wild fauna and flora (Habitats Directive).

Thus, according to Part 1 of Art. 45 of Regulation (EC) No 1307/2013 of 17.12.2013, Member States should designate permanent pastures which are specially protected areas within the meaning of Directive 92/43 / EEC, including peat and wetlands located in and in need thereof enhanced protection to achieve the objectives of the Directives [10].

This means that EU Member States are obliged to establish permanent pastures, which are specially protected zones in the territories defined by the Directives, including peat and wetlands located in those territories, which need strict protection to achieve the objectives of these Directives [ 12, p. 38].

Such specially protected areas are defined within the Natura 2000 network and are prohibited from plowing the soil. As of 2015, 48% of permanent pastures included in the Natura 2000 network have been designated as Protected Areas (6.99 million hectares), and in 2016–51% (7.71 million hectares) [ 11, p. 59–60].

At the same time, a study of the effectiveness of the use of such an environmental measure by the EU’s CAP as establishing permanent pastures in Germany by the Federal Environment Agency has made it possible to observe that Germany has limited use of the possibility of creating permanent pastures in specially protected areas under conversion restrictions. Only pastures that are habitats (according to the Habitats Directive) are designated as protected
areas. The area of pastures established under this Directive amounts to about 666 thousand hectares, which is about 14% of the total area of pasture in Germany [16, p. 28].

Regulation (EC) No 1307/2013 of 17 December 2013 establishes sufficiently flexible rules for the maintenance of permanent grassland, allowing Member States to introduce the equivalent of greening practices: 1) regulating the use of grassland or grassland. In doing so, farmers are required to maintain permanent pasture and take any of the following measures: mowing mode, maintaining landscape features of permanent pasture and shrub control, applying a sowing regime to restore depending on the type of pasture without reducing its natural value, hay and feed, fertilizer and pesticide use restrictions; 2) the use of an extensive grazing system: sheep or mountain pasture and the use of local or traditional breeds for grazing on pastures [10].

2.2.3. Establishment of ecological priority areas

The implementation of this environmental measure is aimed, first of all, at protecting and improving the state of biodiversity on land used by farms, as well as obtaining other environmental and climatic benefits [11, p. 66].

Farmers with more than 15 hectares of cultivable land should provide at least 5% of their land as ecological priority areas in order to protect biodiversity [10].

Within the framework of this measure, agricultural producers may grant the status of ecological priority territories to one or more types of parcels of land (fallow land; terraces; landscape elements adjacent to arable land; buffer strips; agrolis sites; strips along crops; nitrogen-fixing cultures, etc.) [10]. At the same time, at the level of each EU Member State, farms take into account the economic factor (that is, choose the least costly but most effective type and political and administrative factors) when deciding on the choice of a particular type of environmental priority area.

Ecological and economic studies of the potential potential impact of this environmental measure have shown a positive impact on biodiversity. At the same time, the greatest value for the environment are the elements of the landscape and the land under steam. The former have an effective effect on invertebrates, birds and terrestrial plants, while fallow land contributes to the conservation of reptiles and amphibians. The reduction of the effects of climate change is ensured by the increased use of legumes and the displacement of nitrogen fertilizers [17, p. thirteen]

However, the environmental benefits of greening agricultural production, including through explored environmental measures, are significantly limited, as a large proportion of land and farms are exempted from environmental measures. In addition, an analysis of the implementation of greening at the national level indicates that the domestic policy of each EU country is oriented towards avoiding negative economic impacts on farmers rather than achieving positive environmental impacts [17, p. 34].

Achieving the modernized goals of the common agricultural policy requires
coordinated cooperation at both the regional and local levels and involving all actors that can affect the outcome. Of course, such cooperation should be based on a wide range of legal mechanisms.

Against this background, the environmental measures under study should not conflict with other key legal instruments in the field of greening agricultural production. In particular, it is about adherence to the system of norms necessary for receiving assistance from the EU, as well as agro-climatic measures, afforestation and agroforestry, organic farming, protection of areas with natural limitations [11, p. 10].

**Conclusions**

Agriculture, as a central link in the agrarian sector of the economy, is key to meeting the current challenges of food and energy security on the European continent. The current demographic trends indicate an increase in population that requires rapid economic development, including through the intensification of agriculture, an increase in production in order to guarantee sufficient food production, which is not always achieved through the use of environmentally sound and rational measures. At the same time, in the Agenda 21st, the global task is to ensure sustainable development, in particular through the conservation and sustainable use of natural resources. It is clear that the two global challenges outlined are contributing to the disintegration of the economic, social and environmental components of sustainable development. All this gives rise to the pressing question of today: what should be the priority – the achievement of the highest economic indicators, the level of GDP, including at the expense of agrarian production, which uses new technologies that can irreversibly affect the environment, destroy ecosystems and create threat to biodiversity; or the conservation of land, water, forest resources, the provision of adequate and safe atmospheric air quality, the maintenance and improvement of the living conditions of wild flora and fauna species. It seems that in the 21st century, in the conditions of globalization processes, development of scientific and technological progress, creation of biotechnologies into production should not force officials, politicians, agricultural producers, peasants and other categories of persons involved in the process of making and executing decisions in the sphere of SAP implementation, to choose between the economic and environmental component. ensuring sustainable development, that is, commercial and non-commercial benefits, otherwise, ignoring the objective laws of nature, humanity is awaiting the inevitable consequences of a planetary scale.

A comparative legal study of the mechanism of application of environmental measures in agricultural production has shown that the effectiveness and success of the implementation of these measures directly depends on the level of development of the state, its political and legal guidelines and economic ambitions and economic stability of the country. The most widespread use of agri-environmental programs, their positive impact on the achievement of the Sustainable Development Goals, is
observed in the most economically advanced high-living countries (Finland, Ireland, the United Kingdom, Austria, Sweden and Denmark), while countries such as Bulgaria, Romania and Malta are targeting implementation agrarian policy is more about enhancing the economic attractiveness of the state rather than introducing greening into agricultural production.

Diversification of crops, as one of the measures to introduce the principle of greening into agricultural production, is possible and flexible. The first feature of this measure is the subordination of the mechanism of its implementation to certain conditions and rules: the number of diversified crops will depend on the size of arable land, planting of some crops is allowed only in a certain (vegetative period). The flexibility of the analyzed measure is conditioned by the possibility of using alternative means, the results of which are identical to diversification (for example, certification for corn producers).

The ambivalence of such an ecological measure as the maintenance of permanent pasture is manifested in the cultivation of crops by self-seeding or cultivation on land, or the extension to these lands of the regime of specially protected natural areas in accordance with the Habitats Directive.

The imperative for the implementation of the mechanism for establishing the ecological priority areas is the obligation of farmers who own or use land of more than 15 hectares to allocate at least 5% of their territory to areas where agricultural activities will be substantially restricted.

Therefore, it is of fundamental importance to ensure sustainable development and the right of everyone to a safe and environmentally sound environment to integrate environmental conditions into strategic plans and concepts of territorial development, both at industrial, regional and international levels, as pollution air, the destruction of important ecosystems, the destruction of biodiversity and other environmental threats are not only localized within a particular country, but are often interregional or global in nature.

Thus, the practical significance of the investigated results lies in outlining the prospects for reforming the agrarian policy of Ukraine in the context of the Europeanisation of political and legal reality and compliance with our country’s international legal obligations to introduce the principles of a “green economy” (greening production), improving not only the environmental situation both nationally and globally. At the same time, the mechanism of application of environmental measures in agricultural production is complex and requires careful self-study of the implementation features of each environmental measure. In this regard, these issues require further research and scientific-theoretical substantiation.

To summarize, the words of the prominent American philosopher and founder of Ralph Waldo Emerson’s theory of transcendentalism: “Nature cannot be trapped by the untidy and half-dressed, it is always beautiful. Nature does not tolerate inaccuracies or errors.”
References


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