Maria Bielkina

The study of Ukrainian farmers' opinions on the EU environmental policies

Water and Biodiversity

UKRAINIAN CENTRE FOR EUROPEAN POLICY

KONRAD ADENAUER STIFTUNG

екодія
ecoaction.org.ua

Maria Bielkina

Head of the Agriculture Department, Ecoaction NGO

STUDY OF UKRAINIAN FARMERS' OPINIONS ON THE EU ENVIRONMENTAL POLICIES

WATER AND BIODIVERSITY

Review:

Lyubov Akulenko
Executive Director of the Ukrainian Center for European Policy, Candidate of Sciences in Public Administration

Dmytro Naumenko
Senior Analyst, Ukrainian Center for European Policy

Yanina Basista
Expert on circular economy and waste management, NGO Ecosmart

Anna Danyliak
Specialist of the Agriculture Department, NGO Ecoaction

Iryna Kazakova
Specialist of the Agriculture Department, NGO Ecoaction

Bohdan Kuchenko
Expert on biodiversity protection, NGO Ecoaction

Editor:

Nadiya Tysyachna
Communications Manager, UCEP

Graphic design:

Olexandr Ivanov
SMM manager, UCEP

This study was prepared by the Ukrainian Center for European Policy with the support of the Konrad Adenauer Foundation in Ukraine (Kyiv). The information and views expressed in this study are those of the authors and do not necessarily reflect the views of the Konrad Adenauer Foundation. The authors are solely responsible for any errors contained in this study. Furthermore, this study does not reflect the position of their institutions.

Contents

List of abbreviations

BATM – Best Available Techniques

CAP – Common Agricultural Policy

EIA – Environmental Impact Assessment

GAEC – Standards on Good Agricultural and Environmental Condition of Land

IACS – Integrated Administration and Control System

NATURA2000 – Natura 2000 network (EU protected areas network)

NGO – Non-governmental organization

PLN – Polish zloty

SAWR – State Agency of Water Resources

SMR – Statutory Management Requirements

UAN – Urea-Ammonium Nitrate

WCU – Water Code of Ukraine

WFD – Water Framework Directivea

Introduction 1

Within the EU's Common Agricultural Policy, Conditionality makes up an important foundational element for ensuring the achievement of environmental and climate goals. In accordance with EU Regulation No. 2021/2115:

"Conditionality aims to contribute to the development of sustainable agriculture through better awareness on the part of beneficiaries of the need to comply with those basic standards. It also aims to make the CAP more compatible with the expectations of society through improving consistency of the CAP with the environment, public health, plant health and animal welfare objectives."

"Conditionality should form an integral part of the environmental architecture of the CAP, as part of the baseline for more ambitious environmental and climate-related commitments, and should be comprehensively applied across the Union. Member States should ensure that proportionate, effective and dissuasive penalties are applied in accordance with Regulation (EU) 2021/2116 to farmers and other beneficiaries who do not comply with those requirements[1]."

In particular, Conditionality includes Statutory Management Requirements (SMR) and Standards on Good Agricultural and Environmental Condition of Land (GAEC).

Statutory Management Requirements (SMRs) are a set of rules that apply to all farmers whether or not they receive support under the EU's common agricultural policy (CAP)[2].

Good Agricultural and Environmental Conditions (GAECs) apply only to farmers receiving support under the CAP.

Within this analysis, we focus on matters covered by SMRs, namely:

1. Commitments and requirements in the area of "Water":

- SMR 1: Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy;
- SMR 2: Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;

2. Commitments and requirements in the area of "Biodiversity":

- SMR 3: Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds;
- SMR 4: Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

1) Regulation 2021/2115 - EN - EUR-Lex (13) 'beneficiary' in relation to the types of intervention for rural development referred to in Article 69 means:

(a) a public or private law body, an entity with or without legal personality, a natural person or a group of natural or legal persons responsible for initiating or both initiating and implementing operations;

(b) in the context of State aid schemes, the undertaking which receives the aid; L 435/24 EN Official Journal of the European Union 6.12.2021

(c) in the context of financial instruments, the body that implements the holding fund or, where there is no holding fund structure, the body that implements the specific fund or, where the managing authority referred to in Article 123 ('the managing authority') manages the financial instrument, the managing authority.

2) Conditionality – European Commission

Key requirements in the area of "Water" 2

2.1. Water Framework Directive

SMR 1:

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

- Article 11(3) (e) and (h) regarding the mandatory requirements for the controls for diffuse sources liable to cause pollution by phosphates

The Water Framework Directive (WFD) is a foundational and comprehensive document that introduces the principle of basin management for water resources. Its main purpose is to prevent further deterioration and enhance the status of aquatic ecosystems, as well as promote sustainable water use in various sectors. Therefore, the connection with agriculture is obvious.

The objectives of the WFD are outlined in its Article 4 ("Environmental objectives"), which stipulates that "in making operational the programmes of measures specified in the river basin management plans [...] Member States shall implement the necessary measures [...] with the aim of progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances".

In accordance with the Conditionality specified in Annex 2 to EU Regulation No. 2021/2115, the Common Agricultural Policy explicitly focuses on Article 11 and some of its paragraphs, as well as more specifically on diffuse sources[3] and the prevention of pollution by phosphates:

Article 11. Programme of measures[4]:

[...]

3. "Basic measures" are the minimum requirements to be complied with and shall consist of:

> **(e) controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water**, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls shall be periodically reviewed and, where necessary, updated. Member States can exempt from these controls, abstractions or impoundments which have no significant impact on water status.
>
> ...
>
> **(h) for diffuse sources liable to cause pollution, measures to prevent or control the input of pollutants**. Controls may take the form of a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated; [...].

3) The key characteristic of diffuse pollution is its widespread origin across a landscape due to the application of chemicals (such as manure), rather than from a single source (a pipe).

4) https://eur-lex.europa.eu/eli/dir/2000/60/oj/eng

Based on interviews with relevant experts involved in the implementation of this Directive, we may conclude that the provisions outlined above have already been codified in Ukraine's legislation, specifically in the Water Code of Ukraine (WCU).

In particular, Art. 11(3)(e) is reflected in the national legislation through the instrument of special water use. According to Art. 48 of the WCU, special water use is water abstraction from water bodies using structures or technical devices, the use of water and the discharge of pollutants into water bodies, including the abstraction of water and the discharge of pollutants from return waters through canals. Art. 48(2) specifies that special water use is carried out by legal entities and individuals primarily to meet the drinking needs of people, as well as for household, medical, health, agricultural, industrial, transport, energy, fisheries (including for aquaculture) and other state and public needs. In addition, this type of water use requires a special water use permit (Art. 49 of the WCU) issued by the territorial bodies of the State Agency of Water Resources (SAWR).

However, it is still to be confirmed whether this requirement is met by farmers, whether all business entities have a special water use permit and, if so, whether they comply with it.

Regarding Art. 11(3)(h), the situation is more complicated, which is due to the specific nature of this paragraph focusing on diffuse sources. Ukraine's national legislation offers several definitions of "diffuse sources":

- sources of potential pollutants and biogenic substances entering the water body by being flushed from a catchment area[5];
- smaller or scattered sources from which pollutants may be released to land, air or water, whose combined impact on those media may be significant and for which it is impractical to collect reports from each individual source[6].

That is, these sources are quite difficult to control and it is a challenge to establish specific tools to prevent pollution from them. The WCU includes general clauses which specify that:

- agricultural, forestry enterprises, rural households (farms) and citizens are obliged to comply with the established rules for storage, transportation and use of fertilisers, chemical plant protection products and other toxic drugs and substances (Art. 103 of the WCU).
- enterprises, institutions and organisations whose actions may adversely affect the state of subsoil waters, especially those operating storage facilities for industrial, domestic and agricultural effluents or waste, shall take measures to prevent groundwater contamination, as well as equip local networks of observation wells to monitor the quality of these waters (Art. 105 of the WCU).

These provisions have long been established in national legislation, but the extent of their implementation in practice to meet the requirements is still to be studied, just like with the previous item.

Another tool introduced in this respect is the report on diffuse sources, which is regulated within the framework of the Law of Ukraine "On the National Pollutant Release and Transfer Register" (No. 2614-IX dated 20 September 2022). This report contains the data necessary to determine the amount of emissions from diffuse sources in the reporting year. Rather than cover all agricultural producers, the provisions of this Law apply only to entities involved in the following types of activities[7]:

- disposal or recycling of animal carcasses and animal waste (with a treatment capacity of 10 tonnes per day)
- intensive rearing of poultry or pigs (40,000 places for poultry farming; 2,000 places for rearing of pigs (30 kg); and 750 places for sows)
- animal and vegetable products from the food and beverage sector;
- operation of slaughterhouses with a capacity of 50 tonnes of carcasses per day;

5) https://zakon.rada.gov.ua/laws/show/336-2017-%D0%BF/ed20170518#n14

6) On the National Register of Emissions... | dated 20.09.2022 No. 2614-IX

7) https://zakon.rada.gov.ua/laws/show/2614-20#Text

- treatment and processing, except for packaging, of the following raw materials (pre-treated or untreated, intended for the production of foodstuffs or feed from):
    - animal raw materials (other than milk) with an output of 75 tonnes per day;
    - vegetable raw materials with an output of 300 tonnes per day (quarterly average);
    - treatment and processing of milk, the quantity of milk received exceeding 200 tonnes per day (average value on an annual basis).

However, if one looks through the relevant register[8], they can see that data on emissions into the atmospheric air are recorded, whereas data on the release of pollutants into water or soil are rare, which implies that the enterprises either do not exceed the emission thresholds or do not track this impact at all and, therefore, there are no data available.

Reverting to the Water Framework Directive, its Article 9 ("Recovery of costs for water services") contains important provisions that may apply to farmers. Pursuant to this Article, Member States shall ensure:

- that water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive,
- an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III and taking account of the polluter pays principle.

Therefore, further reform of this sector may affect the agricultural sector to the same extent it impacts the aquatic environment.

To sum up, we can say that the relevant requirements of the Water Framework Directive are reflected in Ukraine's national legislation. However, to what extent these requirements are met by enterprises and farmers remains to be seen.

8) https://eco.gov.ua/registers/natsionalnyi-reiestr-vykydiv-ta-perenesennia-zabrudniuvachiv

2.2. Nitrates Directive

SMR 2:

Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources

- **Articles 4 and 5**

The Nitrates Directive is part of the Water Framework Directive, because the matters it deals with concern the prevention of water pollution from diffuse sources associated with agricultural activities. Therefore, while the WFD covers a wider range of sectors that may have an impact on the state of the aquatic environment, the Nitrates Directive focuses on agriculture and the nitrates from agricultural sources, in particular from the use and storage of mineral and organic fertilizers, land management practices, etc.

In accordance with the Conditionality of SMR 2 outlined in Annex II of EU Regulation No. 2021/2115, the Common Agricultural Policy includes the following specific requirements of the Nitrates Directive for farmers:

Article 4

1. With the aim of providing for all waters a general level of protection against pollution, Member States shall:

- establish a code or codes of good agricultural practice, to be implemented by farmers on a voluntary basis, which should contain provisions covering at least the items mentioned in Annex II A [...].
- set up where necessary a programme, including the provision of training and information for farmers, promoting the application of the code(s) of good agricultural practice.

Let us consider in more detail the specific provisions from Annex II referred to therein:

Part A:

- periods when the land application of fertilizer is inappropriate;
- the land application of fertilizer to steeply sloping ground;
- the land application of fertilizer to water-saturated, flooded, frozen or snow-covered ground;
- the conditions for land application of fertilizer near water courses;
- the capacity and construction of storage vessels for livestock manures, including measures to prevent water pollution by run-off and seepage into the groundwater and surface water of liquids containing livestock manures and effluents from stored plant materials such as silage;
- procedures for the land application, including rate and uniformity of spreading, of both chemical fertilizer and livestock manure, that will maintain nutrient losses to water at an acceptable level.

B. Member States may also include in their code(s) of good agricultural practices the following items:

- land use management, including the use of crop rotation systems and the proportion of the land area devoted to permanent crops relative to annual tillage crops;
- the maintenance of a minimum quantity of vegetation cover during (rainy) periods;
- the establishment of fertilizer plans on a farm-by-farm basis and the keeping of records on fertilizer use;
- the prevention of water pollution from run-off and the downward water movement beyond the reach of crop roots in irrigation systems.

Article 5

4. Action programmes shall be implemented within four years of their establishment and shall consist of the following mandatory measures:

(a) the measures in Annex III;

(b) those measures which Member States have prescribed in the code(s) of good agricultural practice established in accordance with Article 4, except those which have been superseded by the measures in Annex III.

Annex III specifies the measures to be included in Action Programmes, concerning:

- periods when the land application of certain types of fertilizer is prohibited;
- the capacity of storage vessels for livestock manure; this capacity must exceed that required for storage throughout the longest period during which land application in the vulnerable zone is prohibited, except where it can be demonstrated to the competent authority that any quantity of manure in excess of the actual storage capacity will be disposed of in a manner which will not cause harm to the environment;
- limitation of the land application of fertilizers, consistent with good agricultural practice and taking into account the characteristics of the vulnerable zone concerned, in particular:
  - soil conditions, soil type and slope;
  - climatic conditions, rainfall and irrigation;
  - land use and agricultural practices, including crop rotation systems;
  - and to be based on a balance between: (i) the foreseeable nitrogen requirements of the crops, and (ii) the nitrogen supply to the crops from the soil and from fertilization corresponding to:
    - the amount of nitrogen present in the soil at the moment when the crop starts to use it to a significant degree (outstanding amounts at the end of winter),
    - the supply of nitrogen through the net mineralization of the reserves of organic nitrogen in the soil,
    - additions of nitrogen compounds from livestock manure,
    - additions of nitrogen compounds from chemical and other fertilizers.

Moreover, the article establishes an additional requirement for farmers concerning limitation on the land application of organic fertilizers, in particular:

[...]

The rates of application of organic fertilizers and their amount depending on the granulometric composition of the soil should be established taking into account the amount of total nitrogen present in the soil, soil conditions and climactic conditions, crop rotation systems, and the amount of mineral fertilizers applied, but not exceeding 170 kg of nitrogen per hectare per year[9].

The above requirements for farmers may affect customary agricultural practices. However, these requirements are specified at the level of national legislation in accordance with the nature of agricultural activity, soil characteristics, climatic conditions, etc., in order to take into account the specific characteristics of the agricultural sector in the most efficient manner.

Ukraine started implementing the Nitrates Directive in the same period as the Water Framework Directive, but the results are quite different. As of June 2025, the provisions/ requirements of the Nitrates Directive have not been implemented for the most part.

9) The specified amount per hectare is the amount of manure containing 170 kg N. However:

(a) for the first four year action programme Member States may allow an amount of manure containing up to 210 kg N; [...]

The Rules for Ensuring Soil Fertility and the Use of Certain Agrochemicals (the Rules) adopted by the relevant Ministry in 2021 serve as the basic document for understanding the indicative requirements that may be imposed on farmers in Ukraine[10]. These Rules are equivalent to the Codes of Good Agricultural Practice mentioned in the Nitrates Directive[11, 12], In 2025, a more detailed version of these Rules was published[13]. In addition, it should be mentioned that as of November 2025, Ukraine has not officially identified nitrate vulnerable zones, within which the requirements of the Action Programme (Art. 5 of the Directive) become mandatory for farmers.

Out of all the above-described requirements under Articles 4 and 5 of the Nitrates Directive, and the relevant regulations of the current national legislation, we suggest focusing on measures that farmers in Ukraine might find challenging.

Periods when the land application of fertilizer is inappropriate/dangerous

In accordance with the Rules for Ensuring Soil Fertility and the Use of Certain Agrochemicals, which are currently non-mandatory for farmers, there are certain periods when fertilizer application is undesirable, in particular:

Table 1. Periods when land application of fertilizer is inappropriate. Annexes 2 and 3 to the Rules for Ensuring Soil Fertility and the Use of Certain Agrochemicals (Section II(6)(3)

Nitrogen fertilizer	Periods when the land application of fertilizer is undesirable
Ammonium sulphate	December 1 to March 1; June 1 to September 31
Ammonium Chloride	December 1 to March 1; June 1 to September 31
Liquid (anhydrous) ammonia	December 1 to March 1; June 1 to August 31
Ammonia solution	December 1 to February 1, June 1 to August 31
Sodium/calcium/ammonium nitrate	July 15 to September 1; November 1 to February 15
Urea (carbamide)	July 15 to September 31; December 1 to February 15
UAN (urea-ammonium nitrate)	July 15 to September 31; December 1 to February 15

Type of land use	Periods when the land application of fertilizer is dangerous	
	Solid organic fertilizers	Liquid organic fertilizers
Areas under crops	June 1 to July 31 November 15 to March 15	November 15 to March 15
Grass, meadows and pastures	No limitation	November 15 to March 15

Source: On Approval of the Rules... I dated 24.11.2021 № 382.

After Ukraine adopts the Action Programme to reduce nitrate pollution within the nitrate vulnerable zones, these periods when the land application of fertilizers is undesirable/dangerous may become mandatory, and fertilizer application may be prohibited during these periods.

Therefore, it is important to discuss with farmers how such restrictions might affect their agricultural activity, find science-based solutions and include them in the Action Programme so as not to aggravate the negative attitudes on the part of farmers and to ensure the effective use of fertilizers.

10) On Approval of the Rules... I dated 24.11.2021 № 382

11) https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1561542776070&uri=CELEX:01991L0676-20081211

12) On Approval of the Rules... I dated 24.11.2021 № 382

13) Rules of Good Agricultural Practice for Farmers, Producers and Land Users in Ukraine I Ministry of Agrarian Policy and Food of Ukraine

Manure storage

Another important issue regulated by the Nitrates Directive is the storage of manure and the provision of storage vessels of the required capacity during the period when land application of manure is prohibited. In particular, this refers to storing manure in properly equipped impermeable storage vessels for at least 4 months. When planning the activities of a livestock farm, it is important to calculate the required storage vessel capacity depending on the type and amount of livestock.

To implement the requirements of the Directive, it is necessary to discuss with farmers their current arrangements concerning manure storage, in particular, how they calculate the necessary capacity of manure storage vessels, and for how long, on average, they can accumulate and store manure in the vessels, how they store it (concrete tanks, lagoons, etc.). This information will provide insight into potential difficulties and the necessary incentives, including the amount of investment, for farmers to adopt the relevant practices.

Fertilizer plans

The next issue concerns fertilizer plans. The Rules include a separate clause on "Planning of fertilizer application and keeping records of its use," which might also become mandatory for farmers in the future.

The fertilizer plan is a basic document for farmers that makes it possible to monitor the presence of nutrients in the soil and the need for additional fertilization for specific plants in specific fields to obtain the expected yield.

It is a tool designed to help farmers to increase the efficiency of fertilizer use. In addition, in accordance with the Rules, the programme for the use of livestock manure should contain detailed information on the expected use of manure on individual agricultural land plots. Manure storage sites on agricultural lands should be marked on a map of 1:25,000 scale or smaller.

The relevant provisions of the Rules should also be discussed with farmers in order to find out what is already being implemented and what will need to be implemented and whether this will be difficult or, on the contrary, may improve efficiency and long-term sustainability on condition that some government or other type of support is provided.

Land management on slopes

As of June 2025, there are the following restrictions on tilling soils on slopes:

Table 2. General rules for land application of fertilizer on steep slopes. Annex 4 to the Rules for Ensuring Soil Fertility and the Use of Certain Agrochemicals (Section III(3)

Land use type, Land plot slope	Land use, application of fertilizers
Arable land, slope >3°	To prevent the loss of nitrogen compounds, mandatory agrotechnical measures include: burying fertilizer into the soil within 12 hours after their scattering on the surface; fertilizing plants only in the critical periods of their growth and development. Crop rotations are used prioritizing cereal crops and legumes planted in rows, as well as perennial and annual grasses.
Arable land, slope >5°	Land application of nitrogen fertilizers is prohibited. Only foliar fertilization is admissible in the critical periods of plant growth and development. Crop rotations are applied including cereal crops and perennial grasses in equal proportions.
Arable land, slope >7°	It is forbidden to cultivate slopes steeper than 7 degrees (except for areas for restoration, afforestation and soil protection measures). In order to prevent the loss of nitrogen on sloping lands, it is necessary to apply anti-erosion measures: tillage along contours, compaction, mole drainage, leaving stubble, and using perennial grasses in crop rotation.
Pastures, slope >7°	For permanent pastures on slopes >7°, a one-time application of fertilizer should not exceed 80 kg N/ha. Grazing of livestock on the slopes should be organized in a way that makes it possible to prevent damage to the turf.

Source: On Approval of the Rules ... | dated 24.11.2021 № 382

Tilling soil on steep slopes presents significant risks to farmers, given that nutrient loss due to runoff in these areas is much greater. Therefore, it is important to discuss with farmers the challenges they face when dealing with such lands and potentially seek joint solutions to reduce the risks of nutrient loss.

The land application of fertilizer to water-saturated, flooded, frozen or snow-covered ground

In Ukraine, the practice of applying fertilizers on frozen soil remains common[14], even though it increases the risks of nutrient loss and leaching. In addition, there are areas where flooding is possible, which makes the usual fertilizer application risky for both water resources and farmers. Therefore, in this case, joint solutions should also be sought to reduce the risks of nutrient loss.

The conditions for land application of fertilizer near water courses

The Water Code of Ukraine contains clear criteria for determining buffer strips (Art. 88)[15]:

- for small rivers and streams, as well as ponds with an area of less than 3 ha – 25 meters;
- for medium rivers, reservoirs on them and ponds with an area of more than 3 ha – 50 meters;
- for large rivers, reservoirs on them and lakes – 100 meters;
- if the steepness of the slopes exceeds 3 degrees, the minimum width of the coastal protection belt shall be doubled.

It is necessary to discuss with farmers the difficulties they face now and potential solutions. After all, the preservation and restoration of buffer strips can also boost the efficiency of fertilizer use and help adapt to climate change. It is one of the most common violations[16] that leads to a deterioration in land use, the quality of water resources, and a decrease in biodiversity, so it is important to find an effective mechanism to ensure compliance with national legislation.

14) Fertilization of winter crops on frozen soil: what fertilizers and under what conditions to use — SuperAgronom.com

15) Water Code of Ukraine of 06.06.1995 №213/95-BP

16) Overview of Trends in Violations of Environmental Legislation by Agricultural Enterprises – Ecoaction

Key requirements in the area of "Biodiversity" 3

SMR 3:

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

- **Article 3(1), Article 3(2)(b), Article 4(1), (2) and (4)**

SMR 4:

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

- **Article 6(1) and (2)**

Directive 2009/147/EC on the conservation of wild birds (the Birds Directive) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) together set out the legal backbone for managing the NATURA2000 sites within the European Union.

EU countries must designate Natura 2000 sites to protect certain species and habitats. In particular:

- under the Birds Directive, they must designate the core breeding, resting and wintering sites for 190 rare or threatened bird species listed in Annex I of the Birds Directive, as well as for certain other migratory bird species;
- under the Habitats Directives, countries must designate sites for over 1000 plant and animal species and 233 habitats. These are listed in Annexes I and II of the Habitats Directive respectively[17].

17) Designating Natura 2000 sites – Environment – European Commission

Although Ukraine is not yet an EU Member State, it already has made some steps towards designating sites within NATURA2000 in the future. This is due to the fact that Ukraine has acceded to the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention), which imposes certain obligations to determine the breeding grounds of certain species and ensure their conservation. The development of the Emerald Network at the country level is considered one of the main instruments for contracting parties to comply with the Bern Convention. In addition, it is important to understand that the European Union is also a party to the Convention and the NATURA2000 network is in line with the concept of the Emerald Network[18].

Ukraine has officially designated the Emerald Network sites starting in 2020[19]. After Ukraine officially acquires the status of a full-fledged EU member, the Emerald Network will transform into the NATURA2000 network. According to the analytical report by the Environment People Law NGO, the Emerald Network in Ukraine currently covers 377 sites with a total area of approximately 8 million ha (more than 13% of the country's area)[20]. Currently, it is difficult to establish what share of these lands is used for agricultural purposes.

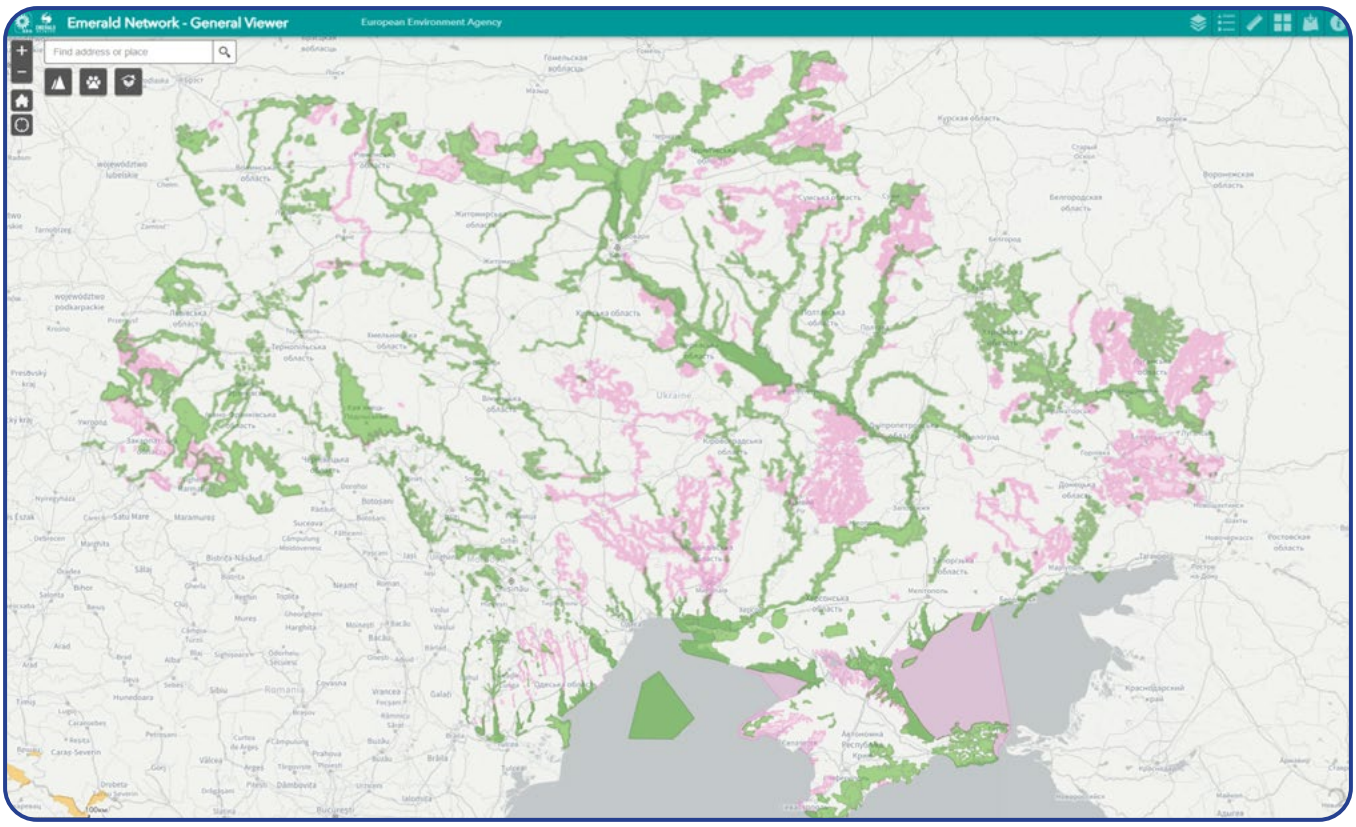
It should be taken into account that the management of Emerald Network sites is still unregulated in Ukraine due to the lack of relevant legislation, which has not been adopted yet. Moreover, the EU keeps passing new legislation, such as the Nature Restoration Law, which Ukraine will also need to transpose.

18) Emerald Network of Areas of Special Conservation Interest – Convention on the Conservation of European Wildlife and Natural Habitats

19) Emerald Network of Areas of Special Conservation Interest - Convention on the Conservation of European Wildlife and Natural Habitats

20) https://epl.org.ua/eco-analytics/reforma-systemy-zberezhennya-ta-vidnovlennya-pryrodnyh-oselyshh-ta-dykoyi-flory-i-fauny-ukrayina-na-shlyahu-do-yes

Fig. 1. Map of the Emerald Network in Ukraine, where officially designated sites are marked in green and newly proposed sited are in pink. The map shows that the vast majority of the designated sites are located in river valleys



Source: Emerald Network - General Viewer

Let us return to the requirements established by the Birds and Habitats Directives, in particular those relating to the agricultural sector, that is, agricultural land, livestock farms, and other related sectors.

Birds Directive

In accordance with the Conditionality outlined in Annex III of EU Regulation No. 2021/2115, within the Common Agricultural Policy the Birds Directive places a specific focus on Article 3(1), Article 3(2)(b), Article 4(1), (2) and (4).

Article 3 of the Directive stipulates that:

1. In the light of the requirements [...], Member States shall take the requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1[21].

2. The preservation, maintenance and re-establishment of biotopes and habitats shall include primarily the following measures:

- (a) creation of protected areas;
- (b) upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones;
- (c) re-establishment of destroyed biotopes[22];
- (d) creation of biotopes.

For the agricultural sector, clause (b) is of special importance because it implies that in conducting the relevant activities one should take into account the needs and characteristics of the territory where they take place.

21) Article 1(1): This Directive relates to the conservation of all species of naturally occurring birds in the wild state in the European territory of the Member States to which the Treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation. (2) It shall apply to birds, their eggs, nests and habitats.

22) Biotope is an area of the earth's surface (land or water bottom) with uniform and distinct terrain and climate conditions and other abiotic factors (light, pressure, pH environment, mechanical and physicochemical properties of the substrate, mineral and organic substances, etc.) that support a specific community of organisms (biocenosis). Source: https://esu.com.ua/article-35351

Article 4 of the Directive stipulates that:

1. The species mentioned in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution.

In this connection, account shall be taken of:

- (a) species in danger of extinction;
- (b) species vulnerable to specific changes in their habitat;
- (c) species considered rare because of small populations or restricted local distribution;
- (d) other species requiring particular attention for reasons of the specific nature of their habitat.

Trends and variations in population levels shall be taken into account as a background for evaluations.

Member States shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species in the geographical sea and land area where this Directive applies.

2. Member States shall take similar measures for regularly occurring migratory species not listed in Annex I, bearing in mind their need for protection in the geographical sea and land area where this Directive applies, as regards their breeding, moulting and wintering areas and staging posts along their migration routes. To this end, Member States shall pay particular attention to the protection of wetlands and particularly to wetlands of international importance.
...
4. In respect of the protection areas referred to in paragraphs 1 and 2, Member States shall take appropriate steps to avoid pollution or deterioration of habitats or any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this Article. Outside these protection areas, Member States shall also strive to avoid pollution or deterioration of habitats.

Since Ukraine cannot yet offer examples of specific restrictions that may apply to farmers, we will consider in more detail the examples of other EU Member States and sample restrictions for agricultural producers operating in NATURA2000 sites.

In Poland, the state urges farmers to comply with the mandatory requirements specified in plans of conservation tasks (plan zadań ochronnych, PZO). These plans are developed involving representatives of public organizations, local businesses and farmers/landowners operating in the relevant NATURA2000 sites.

Let us consider a specific area – the Omulew i Płodownica Valley Network – 34,386.7 ha (Doliny Omulwi i Płodownicy, PLB140005). The main threats that may adversely affect it include: (1) overgrowth of meadows due to mowing cessation; (2) intensive use of meadows; (3) inappropriate mowing time; (4) change in the methods of cultivation and tilling. Measures to ensure the protection of birds include: (1) protection, if necessary, of the nests of the marsh harrier from destruction (during haymaking, harvesting, or from predators); (2) ensuring peace in cranes' resting grounds[23], etc.

Scotland's implementation of the Birds Directive resulted in a requirement that no actions causing significant disturbance to wild birds or significant deterioration of their habitats can be performed, such as:

- cutting/trimming hedgerow during the breeding and nesting period of birds (from March 1 to August 31) without a permit;
- cutting or pruning tree branches during the breeding and nesting period of birds (from March 1 to August 31) without a permit;
- ploughing or reseeding rough grazing or other seminatural areas unless approved as part of an environmental impact assessment (EIA);
- drainage of wetlands, unless an Environmental Impact Assessment (EIA) has been conducted and approved;
- removal/burning of shrubs during the breeding and nesting period of birds (from March 1 to August 31).

23) Obszary Natura 2000 - Regionalna Dyrekcja Ochrony Środowiska w Warszawie - Portal Gov.pl

Habitats Directive

In accordance with the Conditionality outlines in Annex III of EU Regulation No. 2021/2115 within the Common Agricultural Policy, a specific focus within the Birds Directive is placed on Article 6(1) and (2).

Article 6 of the Directive stipulates that:

1. For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.

2. Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.

This Article, just like the Birds Directive, primarily focuses on management plans and measures that might help to conserve species of flora and fauna as well as their habitats.

A separate matter considered is undergoing a proper assessment of the consequences of the impact of economic activities on such sites, taking into account the environmental goals set out for these sites.

As of 2025, Ukraine continues to conduct the environmental impact assessment (EIA) procedures. As part of the EIA, an assessment of the impact of projects on the Emerald Network is also carried out.

But the EIA procedure is limited to specific types of planned activities that belong to category I or II, which factors out other economic activities that may have an impact on flora, fauna and their habitats, which is not appropriate. Therefore, assessment of the impact of the activities of enterprises or landowners on the Emerald network /NATURA2000 network sites should be carried out for a wider range of activities.

In Poland, the requirements are similar to those set out in the Birds Directive, but concern the matter of habitats. For example, let us consider the peat bod Bagno Całowanie – 3,447.5 ha (Ostoja Bagno Całowanie, PLH140001). The main common threats to its natural habitats are: (1) the use of fertilizers, which leads to eutrophication; (2) intensification of (excessive) mowing; (3) decline in the traditional use of meadows. Conservation measures include:

- maintaining open biotopes by systematic removal of trees and shrubs in overgrown areas and removal of the resulting biomass;
- protection against trampling of habitats by installing wooden fences/ protective fences;
- annual mowing in accordance with the requirements of the agroecological scheme;
- control of invasive plants[24].

The implementation of such measures may involve additional costs or crop loss, therefore, in Poland, payments are provided for the implementation of the relevant voluntary agricultural, environmental and climate interventions (interwencji rolno-środowiskowo-klimatyczne) within the NATURA2000 site. Depending on the local natural conditions and type of activity, farmers can choose a measure, an option and voluntarily take on a commitment to apply the relevant practices within 5 years to receive payments. In accordance with Poland's CAP Strategic Plan for 2023–2027, the following measures are suggested:

24) Obszary Natura 2000 - Regionalna Dyrekcja Ochrony Środowiska w Warszawie - Portal Gov.pl

Table 3. Requirements and payments for the implementation of voluntary agricultural, environmental and climate measures in Poland

Activity	Measures 1 and 2. Conservation of valuable habitats and endangered specie
Purpose	Maintaining, preventing deterioration, or restoring the proper status of valuable natural habitats, i.e. wet grasslands, peatlands, wetlands, floodplains, wet meadows, seminatural meadows, and bird nesting sites.
Requirements	Application of environmentally friendly practices, i.e. requirements related to extensive agricultural land use, including: appropriate frequency of mowing, extensive grazing, adaptation of the timing of mowing/grazing to the needs of nature protection.
Payment rate	Depending on the option, they range from 912 PLN/ha to 1,612 PLN/ha.

Source: https://www.gov.pl/attachment/3c879f7d-bb39-44c5-a27e-60c9ee3cbbce

In 2018, Ukraine developed a pilot management plan for the Emerald Network site National Nature Park Pyriatynskyi. It should be noted that most of this site already has the status of a nature reserve fund, so it enjoys a certain level of protection. It is important for farmers to understand the part related to the management strategy (Section 4.2) and the proposed measures, in particular[25]:

- management involving water bodies and watercourses: non-interference or supportive measures in water bodies, for example, creation and maintenance of buffer strips;
- active measures to conserve steppes. For example, non-selective grazing, mowing with special conditions, prevention of dry grass fires, buffer zones to protect against the impact from agricultural land;
- extensive use of meadows. For example, rotational grazing, mowing with special conditions.

For Ukrainian farmers, at the moment, the introduction of such practices without payments that could cover their expenses associated with additional measures or crop losses, seems quite unrealistic. Therefore, it would be a good idea to explore available options and choose measures that do not involve large losses for farmers, and, on the contrary, might be seen as beneficial not only financially due to payments from the government, but also due to improving soil health and the ability to adapt to climate change.

Currently, the transposition into national legislation of the requirements of the Birds and Habitats Directives is in the early stages. After the approval of the relevant law, important steps will have to be made, such as improvement of institutional capacity and infrastructure for the additional registration of territories, introduction of monitoring, drawing up and implementation of management plans. However, Ukrainian farmers need to start preparing now so as to figure out what changes might lie ahead and see if any Emerald Network sites overlap with the land plots where they conduct agricultural activities.

25) https://daphne.sk/pyrmp

Mapping potential challenges and opportunities for their implementation by companies in the agri-food sector

4

SWOT analysis for the "Water" area

Strength	Weakness
• **Existing legal framework**: The basic requirements of the WFD and the Nitrates Directive are already reflected in the national legislation (WCU, Soil Fertility Rules), which provides some basis for implementation. • **Special water use tool**: There is a clear mechanism of permits for water abstraction, which allows for lawful and controlled use of water resources • **General obligations**: Legislatively enshrined general rules for handling fertilizers and pollution prevention	• **Low level of implementation**: The main challenge is insufficient compliance with the current requirements in practice (special water use permit, general rules of the WCU). • **Difficulty of diffuse source control**: Diffuse pollution sources are difficult to control and monitor, and the pollution released from them into water/soil is rarely tracked. • **Unimplemented Nitrates Directive**: As of 2025, no nitrate vulnerable zones have been identified and most requirements of the Directive remain voluntary.
Opportunities	**Threats**
• **Stimulating innovation**: The WFD's goal of improving water status and sustainable water use encourages farmers to adopt more efficient and environmentally friendly technologies. • **Access to CAP programmes**: Joining the EU Common Agricultural Policy (through the Conditionality) potentially opens up access to financial support and programmes that can cover the costs of implementing best practices. • **Improved efficiency**: Mandatory fertilization plans and programmes for the use of manure might improve resource use efficiency and reduce fertilizer costs. Proper storage of manure may help prevent the loss of nitrogen needed for plants.	• **Increased cost of resources:** Reform under Article 9 of the WFD ("Recovery of costs") and application of the "polluter pays" principle might increase the financial burden on farmers. • **Mandatory restrictions:** Designation of vulnerable zones will make mandatory the requirements of the Nitrates Directive, such as prohibition of fertilization in certain periods, etc. • **Significant investment:** Requirement for the construction of impermeable vessels for manure storage (at least for 4 months) requires significant investments, especially from livestock farms. • **Strengthening control:** Failure to comply with the requirements of the WFD and WCU will lead to more inspections and sanctions.

SWOT analysis for Biodiversity

Strength	Weakness
• **Readiness for integration**: Ukraine's accession to the Bern Convention and the creation of the Emerald Network might serve as a basis for the future transformation into NATURA 2000. • **Potential for support**: EU experience shows that conducting activities in the NATURA2000 sites might involve payments for the voluntary application of environmentally friendly practices. • **Environmental benefits**: Conservation measures (extensive use, non-selective grazing, creation of buffer zones) may contribute to soil health improvement and help adapt to climate change.	• **Lack of a legal framework**: The legal regime for the management of Emerald Network sites in Ukraine has not been enshrined in legislation yet due to the absence of a relevant law. • **Uncertainty**: There is no understanding that some agricultural lands overlap with Emerald Network sites, which creates legal uncertainty for landowners and farmers. • **Restricted EIA**: The current EIA procedure is limited to specific activities only, excluding those that may affect habitats. • **Lack of compensation**: At present, the implementation of environmental practices without any payments is unviable for most farmers.
Opportunities	**Threats**
• **Involvement in management plans**: Opportunity to participate in the development of management plans to adapt restrictions to local requirements and agricultural needs. • **Extensive use**: Transition to extensive use of meadows and pastures and mowing with special conditions might serve as a new business model. • **Revenue diversification**: Opportunity to receive payments for environmentally friendly practices that may partially offset crop loss. • **New EU legislation**: The need to transpose new acts, such as the Nature Restoration Law, could open up new support mechanisms to enhance soil health and biodiversity.	• **Strict restrictions on activities**: Implementation will result in mandatory restrictions on agricultural lands located within the Emerald Network. • **Financial losses**: Failure to comply will result in deterioration of habitats and disturbance of birds, which may involve sanctions. • **Bureaucratic pressure**: The need to undergo EIA for a wider range of activities conducted within the Emerald Network. • **Risk of conflict of interest**: Without a proper balance, farmers may face crop losses or additional costs.

Survey methodology and summary of interviews with farmers concerning the challenges and opportunities associated with the European Green Deal policies in the areas of "Water" and "Biodiversity"

5

5.1. General Characteristics and Methodology

In August to September 2025, farmers were surveyed concerning the opportunities associated with the introduction of European requirements in Ukraine.

Information was collected through an online questionnaire consisting of approximately 80 questions, most of which were closed, that is, to answer them one or several of the proposed options had to be selected. The questions were divided into 7 thematic units:

- General characteristics of the farm
- Land and soil management.
- Pollution prevention, including BATM, and carbon farming.
- Water and fertilizer management
- Biodiversity protection
- Circular economy and waste management.
- Expectations of respondents from the State (Government) regarding the agricultural sector in the coming year.

The survey was conducted through the Tally online platform, which made it possible to build logical links between answers and questions: a number of questions or additional fields for comments were displayed whenever the respondent gave a relevant answer to the key question in the section. Within the survey 844 partially completed questionnaires and 364 fully completed questionnaires were collected. The fully completed questionnaires contained a varying number of responses depending on the sector (crop production, livestock farming, combined farming). The survey included farms that operate throughout the government-controlled territory of Ukraine. Data were collected for 6 weeks. The distribution channels of the survey included: the State Agrarian Register administered by the Ministry of Economy, Environment and Agriculture; specialized associations, etc. Data interpretation takes into account only fully completed questionnaires.

The breakdown by the role of the respondents on the farm is as follows: 79% (288 respondents) are farmers. Second largest category is "Other" (13%, 46 answers), where the respondents described themselves as a sole proprietor of the farm, a user of land for agricultural production, a director, a lawyer, an accountant and via other roles that connect them with agriculture. The other categories include less than 3% of the respondents: agronomist (3%, 10 answers), consultant and manager for sustainable development (2%, 8 answers each), as well as a representative of the scientific community (1%, 4 answers).

The respondents represent the following parts of Ukraine:

Table 4. Region of activity and representation of farmers

Region where economic activities are conducted	Number of respondents	Share	Number of farmers
Centre of Ukraine (Dnipropetrovsk, Kirovohrad, Poltava, Cherkasy, Vinnytsia, and Kyiv oblasts)	139	37%	111 (~ 80%)
South of Ukraine (Odesa, Mykolaiv, Kherson, and Zaporizhzhia oblasts)	97	27%	76 (~ 78%)
West of Ukraine (Lviv, Ivano-Frankivsk, Ternopil, Chernivtsi, Zakarpattia, Volyn, Rivne, and Khmelnytskyi oblasts)	62	17%	53 (~ 86%)
East of Ukraine (Kharkiv, Donetsk, and Luhansk oblasts)	32	9%	22 (~ 69%)
North of Ukraine (Chernihiv, Sumy, Zhytomyr oblasts)	32	9%	26 (~ 81%)
All of Ukraine	2	1%	0
Total	**364**	**100%**	

Please note that the answer "All of Ukraine" was chosen by two respondents – a manager for sustainable development and a representative of the scientific community.

If split by farming sectors, the respondents are represented as follows:

Table 5. Farming sector and representation by regions of Ukraine

Sector	Number of respondents	Share of the total	Regions
Crop production	275	75%	• Centre – 116 • South – 78 • West – 34 • East – 25 • North – 21 • All of Ukraine – 1
Livestock farming	35	10%	• Centre – 5 • South – 8 • West – 18 • East – 3 • North – 1 • All of Ukraine – 0
Combined farming (crop production and Livestock farming)	54	15%	• Centre – 18 • South – 11 • West – 10 • East – 4 • North – 10 • All of Ukraine – 1
Total	364	100%	

That is, we see that the crop production sector is the one most numerously represented, in particular by respondents from the Centre and South of Ukraine. At the same time, the situation with livestock farming is different, the main representation is from the West of Ukraine, although their number is much smaller than that in crop production. As for combined farming, the leader is the Centre of Ukraine, while the South, West and North are almost on a par.

Regarding the respondents' land bank (crop production and combined production), the distribution is as follows:

Table 6. Land bank size and representation by regions of Ukraine

Land bank	Number of respondents	Share of the total	Regions
up to 100	196	60%	• Centre – 88 • South – 48 • West – 34 • East – 12 • North – 14
100–500 ha	76	23%	• Centre – 27 • South – 25 • West – 7 • East – 6 • North – 11
500 – 5000 ha	49	15%	• Centre – 18 • South – 11 • West – 10 • East – 4 • North – 10 • All of Ukraine – 1
5 000 – 10 000 ha	4	1%	• Centre – 1 • East – 3
over 10 000 ha	4	1%	• West – 1 • East – 1 • North – 1 • All of Ukraine – 1
Total	329	100%	

The table shows the breakdown of respondents by land bank and their geographical representation by regions of Ukraine, which can provide an overall picture of the audience, in particular, 60% of the respondents represent farms with a land bank of below 100 ha.

Regarding the types of livestock farming among the respondents (livestock only and combined) who completed the survey, the breakdown is as follows (however, it should be mentioned that respondents could choose several answers if their farm is involved in several types of livestock production):

Table 7. Type of livestock farming, size and representation by regions of Ukraine

Type of livestock production	Number of respondents, share	Number of livestock	Region
Cattle	49 respondents, 54%; 36 of them chose cattle farming as the only type of livestock	• Small* – 34 respondents • Medium** – 9 respondents • Large*** – 3 respondents • Other – 3 respondents (up to 10 cows)	• Centre – 13 • South – 7 • West – 4 • East – 4 • North – 9 • All of Ukraine – 1
Pig	20 respondents, 22%; 8 of them chose pig farming as the only type of livestock	• Small* – 13 respondents • Medium** – 4 respondents • Large*** - 3 respondents	• Centre – 5 • South – 5 • East – 2 • North – 2 • All of Ukraine – 1
Poultry	17 respondents, 17%; 6 of them chose poultry farming as the only type of livestock	• Small* – 13 respondents • Medium** – 2 respondents • Large*** – 1 respondent • Other – 1 respondent (below 80 heads)	• Centre – 3 • South – 6 • West – 3 • East – 2 • North – 3 • East – 2
Other	26 respondents, 29%; 22 of them chose "other" as the only type of livestock	• Goats, bees, sheep, horses, rabbits	• Centre – 6 • South – 10 • West – 8 • East – 1 • North – 1
Total	**89**		

* small (cattle farming – up to 50 heads, pig farming – up to 500 heads, poultry farming - up to 10,000 heads)
** medium (cattle farming – up to 400 heads, pig farming – up to 3,000 heads, poultry farming – up to 60,000 heads)
*** large (cattle farming – more than 400 heads, pig farming – more than 3,000 heads, poultry farming – more than 60,000 poultry heads)

In terms of the general characteristics, it was also taken into account whether the farm was certified as organic. 89% (323 respondents) are not certified as organic, that is, the majority of respondents represent traditional farming. The further categories are represented by less than 5% of respondents, including:

- 5% (18 respondents – 10 crop production, 7 livestock farming; 1 combined farming) – fully certified as organic;
- 4% (15 respondents – 7 crop production, 5 livestock farming, 3 combined farming) – in the process of getting certification;
- 2% (8 respondents – 3 crop production, 2 livestock farming, 3 combined farming) – confirm that some of their activities are certified as organic.

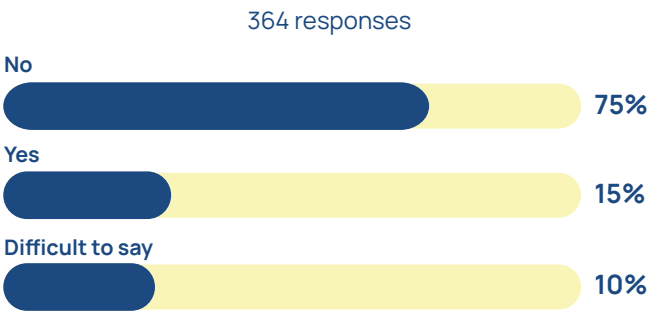
5.2. Farmers' opinions on challenges and opportunities in the area of "Water"

5.2.1. Water Framework Directive

Special water use

The questions included in the section of the questionnaire dealing with the requirements of the Water Framework Directive focused mainly on permits for special water use and wastewater management. The questions were mandatory for all the respondents who undertook the survey.

Within your economic activities, do you abstract and/or consume water in volumes that exceed 5 cubic meters a day?



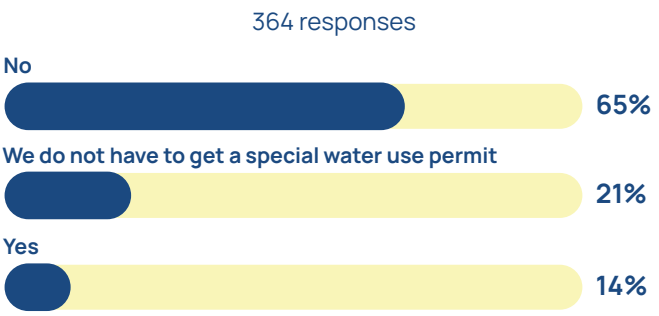
Most of the respondents indicate that they do not use more than 5 cubic meters of water per day. Of them, 223 respondents are engaged in crop production; 22 are engaged in livestock farming, and 29 are engaged in combined farming. It should be mentioned that among the respondents from the livestock farming sector who answered that they use less than 5 cubic meters of water per day, there are also producers with a medium number of livestock. This raises doubts concerning the accuracy of their calculations – the amount of water they use might be larger in reality.

Of those who answered "yes": 32 respondents are engaged in crop production and the area of their land bank ranges widely; 6 respondents are engaged in livestock farming (mainly cattle and poultry) with both small and medium-sized and large-sized farms; 15 respondents are engaged in combined farming with different land bank areas, starting from "below 100 ha," and different numbers of livestock.

Among those who find it difficult to answer: 20 are engaged in crop production, 7 in livestock farming and 10 in combined farming. In general, the number of those who find it difficult to answer is quite insignificant, which may mean that farmers understand and monitor how much water they approximately use. However, there is a high probability that the sources of their supply are private wells that are difficult to control and are not equipped with water use meters, which makes it problematic to monitor and control this decentralized use of water.

The next question to the farmers concerned the requirement to obtain a permit for special water use.

Do you have a special water use permit?



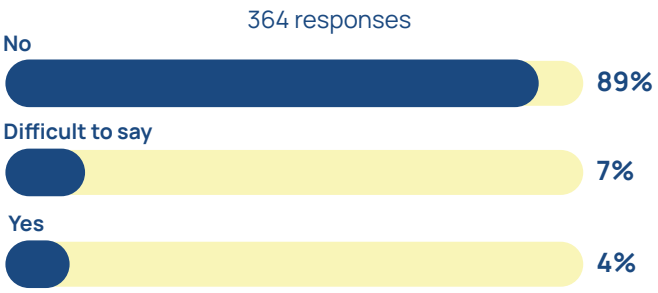
The answers correlate with the previous question in terms of the amount and answer options, but if we check for individual respondents who answered that they use more than 5 cubic meters of water per day, and those who answered that they have permits for special water use, we see only 33 matches (the other 20 answers: 11 respondents (mainly involved in crop production and several in combined farming) answered "no, I do not have the permit", 9 respondents (all types of farming) answered that they "do not need the permit"). If we take a closer look at the 19 respondents who have permits for special water use, in their previous response they answered that they use less than 5 cubic meters of water per day.

In general, these answers attest to a certain inconsistency and irregularity of information that farmers might receive/provide regarding permits for special water use or to the fact that they deliberately ignore the requirements.

Wastewater management

The next question concerns wastewater management[26], because if the farm uses water, it is bound to generate wastewater, which must be properly treated and disposed of if polluted.

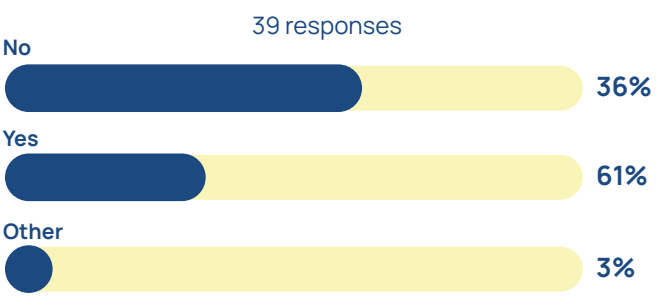
Do the activities of your farm involve generating and discharging wastewater?



89% of respondents indicate that they do not generate or discharge wastewater in their farm. The share of those who hesitate or confirm that wastewater is generated is 7% and 4%, respectively, which is a very small fraction. Among those who answered "yes": 6 respondents are engaged in combined farming (mainly cattle and pig breeding), 3 in livestock farming (cattle – both small and large farms), and 3 in crop production). The respondents who found it difficult to answer mainly represent farms engaged in combined farming and crop production.

For the respondents who answered that they generate wastewater or find it difficult to answer, – that is, 39 respondents, – the next question was whether they monitor their wastewater content.

Do you monitor the quality of wastewater?



Of the 12 respondents who answered that they did generate wastewater in the previous question, only 9 confirmed that they monitored their wastewater, while the other 3 indicated that they did not.

That is, the problem with monitoring and control over what happens to wastewater in the future remains open and requires additional discussions with farmers.

Resources and support farmers need

To understand what the resources and time they need for adaptation, farmers must be aware of the requirements expected of them and be able to analyse their farm's needs. Currently, farmers seem to be insufficiently aware of this matter or indeed they are not subject to the requirements due to the small size of farms, which also requires additional confirmation.

However, farmers did identify the approximate resources and time they would need. These questions were mandatory only for those who indicated that they had a permit for special water use.

What resources does your farm need to comply with the requirements of special water use?

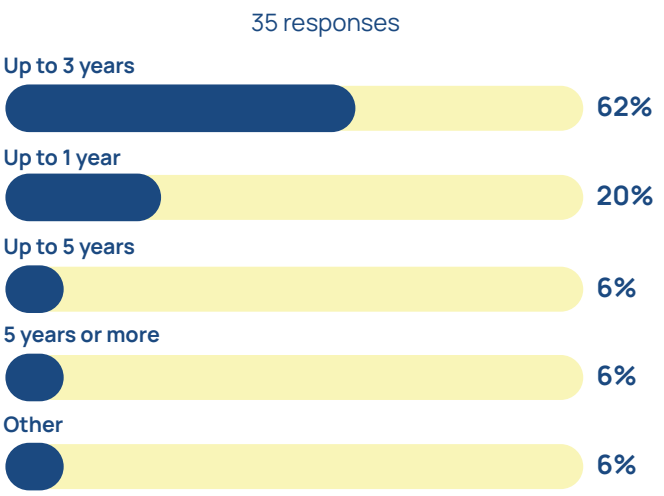
Basically, we see that 48% of respondents point to additional financial investments that they will need to adapt to the requirements of special water use or other related requirements. The shares of other resources – such as ongoing consulting support, training, workers, and new technologies – are almost the same. A lot of respondents chose the answer that they already meet the requirements. All farmers who provided this response have a permit for special water use, but some of them still claim that their activities do not involve generation of any wastewater, which requires additional confirmation.

26) Wastewater: water generated in the process of household and production activities (except for mine, quarry and drainage water), as well as diverted from built-up areas where it was generated as a result of precipitation. Source: Water Code of Ukraine | dated 06.06.1995 No. 213/95-BP

The next question concerned the timeframes required for farmers who believe that they do not yet meet the requirements. The farmers who answered that they already did are not taken into account.

More than 60% of respondents anticipate that they will be able to adapt to the requirements approximately within 3 years.

Provided you have the necessary resources, how much time will your farm need to ensure compliance with the special water use requirements?



Based on the answers received, we might outline the following resources and support that are necessary for farmers:

- Providing information and advice to farmers on special water use: who should get the permit, how to get it, what conditions should be met, etc.
- Supporting the voluntary installation of water meters on the farm to account for the use of water and to understand the needs.
- Explanations regarding the discharge of wastewater, in particular concerning the type of enterprises that must monitor the contents of their wastewater.

5.2.2. Nitrates Directive

The questions on the Nitrates Directive included in the questionnaire mainly focused on the management of fertilizers, both mineral and organic; the arrangement of manure storage facilities, as well as partially on conducting activities on the slopes or near water bodies.

Fertilizer Management

The key questions regarding fertilizer management had to do with the periods of land application and the amount of nitrogen coming from fertilizers, as well as the availability of a fertilizer application plan. In paragraph 2.2. above, we discussed the periods when land application of mineral nitrogen fertilizers and organic fertilizers is undesirable in accordance with the national legislation, as these requirements may become mandatory for farmers who operate within nitrate vulnerable zones. The survey contained a question to farmers whether they apply a specific type of fertilizers in the specified periods, i.e. the periods when the Nitrates Directive sees their land application as inappropriate.

The table shows what types of fertilizers farmers apply during periods when their land application is inappropriate, and, therefore, the relevant restrictions might trigger a negative reaction among farmers. Above all, this applies to fertilizers such as urea (carbamide) (40%), ammonium sulphate (38%) and sodium/calcium/ammonium nitrate (36%). It is necessary to find out if there is a risk of runoff or leaching of these types of fertilizers and, if confirmed, farmers should be informed that other periods are better suited for land application of fertilizers if they want to prevent nutrient loss and water pollution. Another aspect worth noting is that these answers come mainly from representatives of small farms those who have a land bank of below 100 ha. However, occasionally some representatives of large companies with more than 10,000 ha also report applying fertilizers during these periods, which means that consultations should be held with them too.

Table 8. Respondents who apply certain types of mineral and organic fertilizers in the periods when their land application is inappropriate under the Nitrates Directive

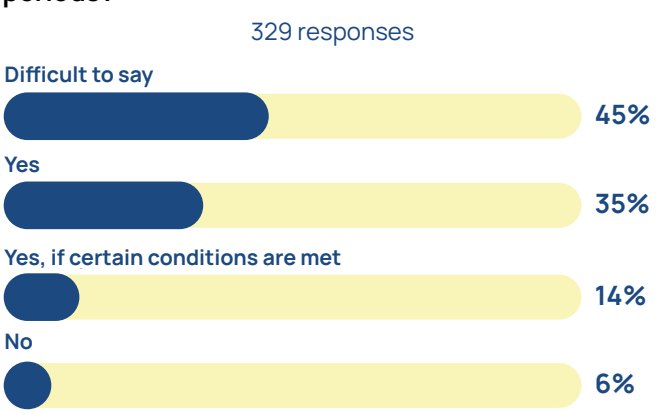
Fertilizer type and limitation period	Answers received (329 replies)	Regions
Ammonium sulphate • **December 1 to March 1** • **June 1 to September 31**	38% (124 respondents) apply the fertilizer within these periods	**Centre –** 54 respondents (mostly farmers with less than 100 ha) **South –** 33 respondents (almost evenly distributed among farmers with less than 100 ha, 100–500 ha, 500–5000 ha) **West –** 13 respondents (mostly below 100 ha) **East –** 8 respondents (mostly below 100 ha and 100–500 ha) **North –** 14 respondents (mostly 100–500 ha) **All of Ukraine –** 2 respondents (500–5000 ha, more than 10,000 ha) For the full version of the table, see Annex 1
Sodium/ calcium sodium/ ammonium nitrate • **November 1 to February 15** • **July 15 to September 1**	36% (118 respondents) apply the fertilizer during these periods	**Centre –** 48 respondents (mostly farmers with less than 100 ha) **South –** 41 respondents (mostly farmers with less than 100 ha) **West –** 15 respondents (mostly below 100 ha) **East –** 7 respondents (uniform distribution among those with less than 100 ha, 100–500 ha, 500–5000 ha) **North –** 5 respondents (uniform distribution among those with less than 100 ha, 100–500 ha, 500–5000 ha) **All of Ukraine –** 2 respondents (500–5000 ha, more than 10,000 ha) For the full version of the table, see Annex 2
Urea (carbamide) • **December 1 to February 15** • **July 15 to September 31**	40% (133 respondents) apply the fertilizer during these periods	**Centre –** 61 respondents (mostly farmers with less than 100 ha) **South –** 38 respondents (mostly farmers with less than 100 ha) **West –** 16 respondents (mostly below 100 ha) **East –** 10 respondents (mostly below 100 ha) **North –** 7 respondents (mostly 100–500 ha and 500-5000 ha) **All of Ukraine –** 1 respondent (more than 10,000 ha) For the full version of the table, see Annex 3
UAN Urea-Ammonium Nitrate • **December 1 to February 15**	27% (89 respondents) apply the fertilizer during these periods	**Centre –** 34 respondents (mostly farmers with less than 100 ha) **South -** 29 respondents (mostly farmers with 100-500 ha) **West –** 10 respondents (mostly below 100 ha) **East –** 8 respondents (mostly 100–500 ha and 500–5000 ha) **North –** 7 respondents (mostly 100–500 ha and 500–5000 ha) **All of Ukraine –** 1 respondent (more than 10,000 ha) For the full version of the table, see Annex 4
Solid organic fertilizers • **November 15 to March 15** • **June 1 to July 31**	24% (78 respondents) apply the fertilizer during these periods	**Centre –** 33 respondents (mostly farmers with less than 100 ha) **South –** 19 respondents (mostly farmers with less than 100 ha) **West –** 15 respondents (mostly below 100 ha) **East –** 4 respondents (mostly below 100 ha) **North –** 6 respondents (mostly below 100 ha and 100–500 ha) **All of Ukraine –** 1 respondent (500–5000 ha)
Liquid organic fertilizers • **November 15 to March 15**	12% (38 respondents) apply the fertilizer during these periods	**Centre –** 13 respondents (mostly farmers with less than 100 ha) **South –** 10 respondents (mostly farmers with less than 100 ha) **West –** 7 respondents (mostly below 100 ha) **East –** 3 respondents (with land banks of different sizes) **North –** 4 respondents (mostly 100–500 ha) **All of Ukraine –** 1 (500–5000 ha) For the full version of the table, see Annex 6

As for the other types of fertilizers, such as ammonium chloride, liquid ammonia, ammonia water, the impact of restrictions on their application in certain periods is rather low, because:

- Ammonium chloride: is applied by 1% (3 responses), 81% (268 responses) do not use this fertilizer.
- Liquid (anhydrous) ammonia: is applied by 3% (10 responses), 83% (272 responses) do not use this fertilizer.
- Ammonia water: is applied by 3% (10 responses), 84% (275 responses) do not use this fertilizer.

In continuation of the topic of limiting the use of fertilizers, farmers were asked whether they were ready to adapt to the restrictions.

Is your farm willing to adapt to the restrictions concerning fertilizer application in specific periods?



The answers attest to the fact that that most are inclined to believe that they can adapt or might adapt under certain conditions. As for the conditions, farmers (mainly with land banks of below 100 ha) checked the following options:

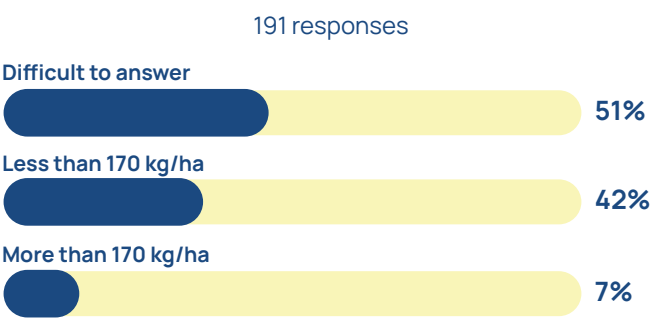
- financial support, incentives on the part of the state;
- dependence on climatic conditions, moisture supply and precipitation;
- compliance by all enterprises without exceptions;
- economic feasibility.
- consultations with specialists and training;
- if it does not result in loss of yield or if there is a compensation for loss of yield;
- if it does not result in a decrease in soil productivity;
- explanations why it is necessary.

As for those who find it difficult to answer, the number of farmers who are hesitant or unsure is also significant (45%, or 149 respondents), including: 61 from the Centre, 39 from the South, 18 from the West, 19 from the East, and 12 from the North.

As for those who are strongly opposed to the measures, 9 are engaged in farming in the Centre, 5 in the South, 1 in the West, 3 in the East, and 1 in the North. This is also in line with the overall breakdown of the responses by region, so there are likely farmers who will be opposed in all the regions, but their number is insignificant, so it is important to explain and provide a rationale for the changes and restrictions that may affect farmers.

Another significant matter within the Nitrates Directive is non-exceeding the limit on the amount of nitrogen from organic fertilizers (e.g. manure) applied per hectare annually. The Directive contains restrictions on the application of nitrogen from organic fertilizers, which should not exceed 170 kg of nitrogen per hectare. Below are the responses we received:

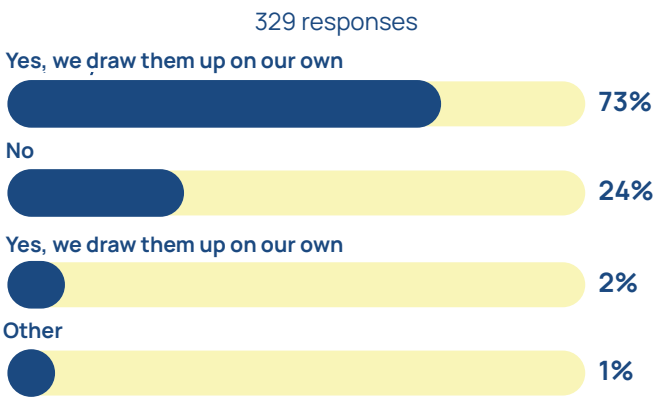
What is the approximate amount of nitrogen from organic fertilizers (e.g. manure) your farm uses per ha



Many respondents find it difficult to answer, so there is a risk that farmers do not have adequate information on the amount of nitrogen in the organic fertilizers they use. 42% of respondents indicate that they use less than 170 kg/ha of nitrogen annually, that is, the restrictions of the Nitrates Directive will not be critical to them. Only 7% or 13 respondents indicated that they use more than 170 kg/ha of nitrogen from organic fertilizers – these are farms of different types and from all regions of Ukraine. However, it is important to check this information, because the farmers' calculations might be erroneous, which could produce false data. But the overall result indicates that there should be no problems with restrictions.

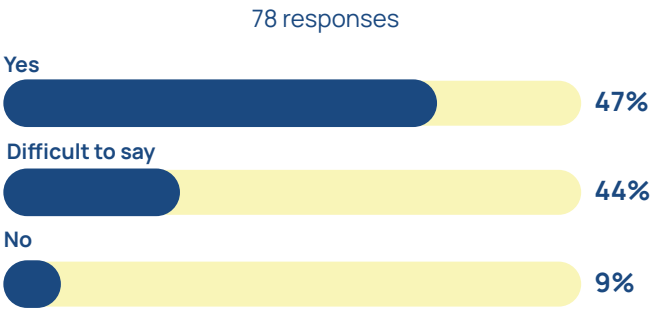
The final question regarding fertilizer management concerned the plan for their application.

Do you draw up yearly fertilization plans for specific crops?



In general, the answers paint a rather positive picture, because 75% of farmers prepare a fertilization plan annually on their own or involving an external consultant. 24% (78 respondents) report that they do not prepare a fertilization plan (57 of them have a land bank of below 100 ha). Also, those who checked the "Other" option, specified that it depends on the financial capacity or that they apply as little fertilizers as possible.

Would you be willing to draw up a fertilization plan for a more efficient use of nutrients on your farm?



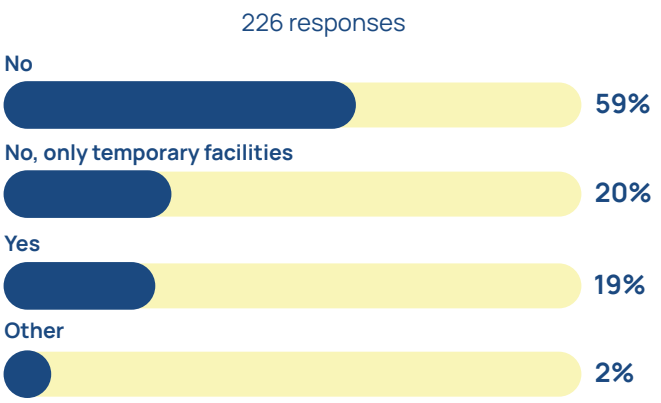
The respondents who answered that they did not draw up an annual fertilization plan were additionally asked whether they would be willing to draw up such a plan. The result received seems quite positive: 47% would be willing, 44% find it difficult to answer, and only 9% oppose the measure. Therefore, we may conclude that it is important for farmers to have support from the state, receive relevant consultations, as well as understand the importance of planning and its economic feasibility.

Arrangement of manure storage facilities

The question concerning manure storage is relevant mainly for the respondents engaged in livestock farming and combined farming, but also for those who buy and use manure.

One of the questions concerned the availability of a permanent manure storage facility.

Do you have a permanent tank / facility for manure storage

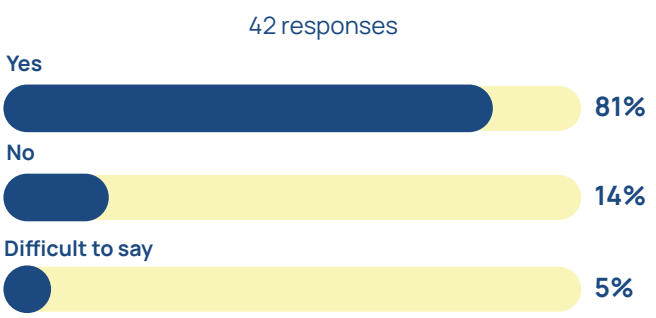


According to the responses received, 79% of farms do not have a permanent manure storage facility. Respondents also specified the availability of temporary manure storage sites, including land plots near the farm, or near the places where its land application is to be performed. It is also important to understand that of these 79% (179 respondents), 133 respondents are engaged, as they indicated, only in crop production. This means that they are more likely to purchase organic fertilizers. Another 46 respondents who do not have a permanent manure storage facility are engaged in livestock farming or combined farming. This information needs to be confirmed by holding additional conversations with the farmers.

Only 19% of farms (42 respondents) have a permanent manure storage tank or facility: 15 of them are engaged in livestock farming, 18 in combined farming, and 9 in crop production, which requires further clarification. If we take into account only livestock and combined farming, the vast majority of respondents do not have a permanent manure storage facility, which is fraught with risks of nitrate pollution.

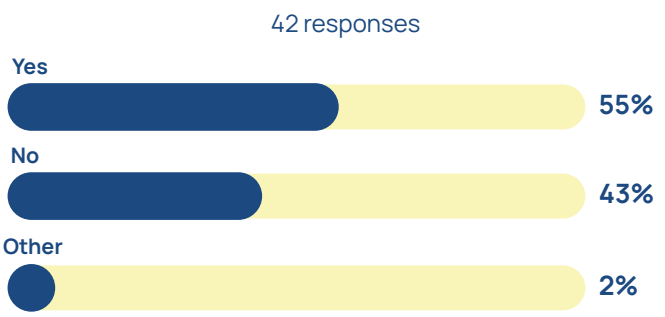
The next question concerned the capacity of the tank and the period during which manure can be accumulated and stored. This question was open for 42 respondents who said that they had a permanent manure storage tank.

Is the capacity of this tank / facility sufficient for 4 months continued manure storage?



The vast majority of the farmers (81%) indicate that they have sufficient manure storage capacity for at least 4 months, that is, enough for the period when it is inappropriate to apply fertilizers. Other respondents (mainly involved in livestock farming or combined farming, from small to large farms) do not have sufficient capacity or cannot answer this question. Therefore, the issue of sufficient manure storage capacity for effective storage and prevention of nutrient loss from organic fertilizers is important and should be taken into account when providing support to farmers.

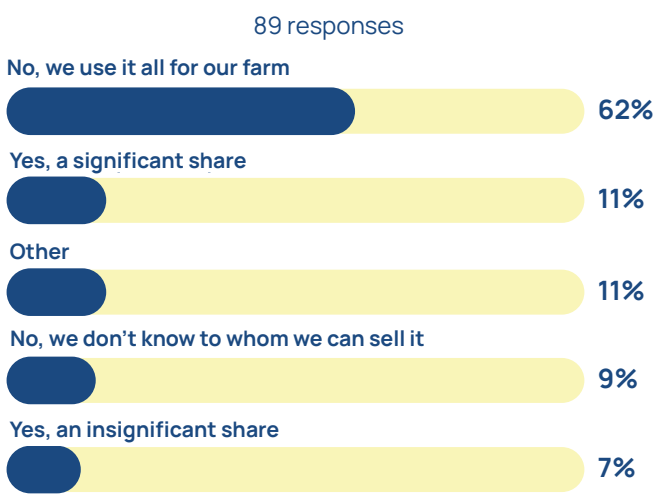
Is the floor of your manure storage tank impermeable?



As for the availability of impermeable floor, the situation is less positive, because only 55% of respondents say that their floor is impermeable, the other 45% claim that it is not or cannot answer this question. Therefore, the matter of what floor farmers choose for permanent manure storage sites requires further study.

The last question about manure focused on whether respondents sell excess manure to farmers.

Do you sell/give away a share of organic fertilizer (manure) outside your farm?

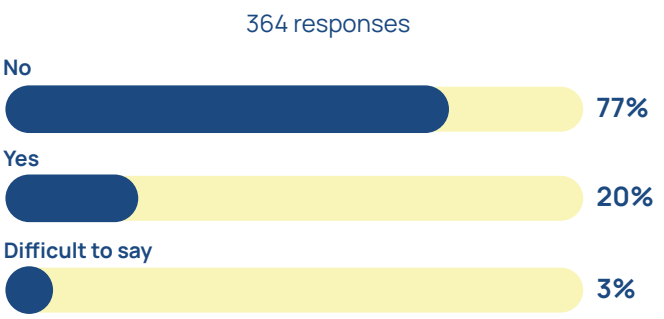


A significant share of respondents (62%) use all of the manure for the need of their own farm. 18% sell a significant or small part of it, and 9% of respondents do not have any sales channels for their excess manure. In other variants, respondents pointed to a lack of sufficient capacities for cost-effective transportation. So, the problem of excess manure is insignificant, but it is important to start creating sales channels or sites where farmers could sell / buy manure.

Proximity to water bodies

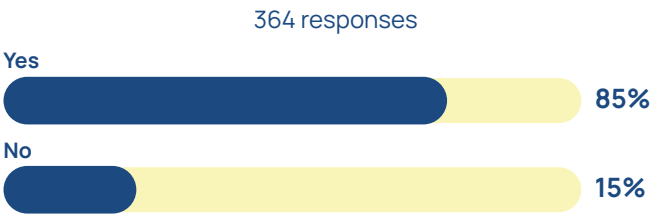
The Nitrates Directive lays down certain restrictions on land use and fertilizer use depending on the proximity to water bodies, so this part of the survey was aimed at finding out to what extent respondents understand the characteristics of their land plots, as well as the restrictions that may apply to them.

Do you have land plots situated within 25 meters from a water body (river, lake, etc.)?



Regarding the proximity to water bodies, the majority of respondents (77%) claim that their land plots are not situated within 25 meters from water bodies. However, 25 meters is a minimum distance and is relevant only for small rivers, for medium rivers the requirement is 50 meters and for large rivers – 100 meters. Hence, if the river is medium or large, the respondents may already be operating within a coastal protection belt. 20% of farmers (mainly crop production, 50 out of 71 respondents) mention that their land plots are close to water bodies, so the number of cases of non-compliance with the requirements of the water legislation may be higher.

Are you aware of restrictions concerning the storage or use of pesticides and fertilizers in the proximity (within 25 meters) to water bodies (river, lake, etc.)?



85% of farmers are aware of the restrictions on the use of fertilizers near water bodies. However, the percentage of those who adhere to these restrictions is still to be established.

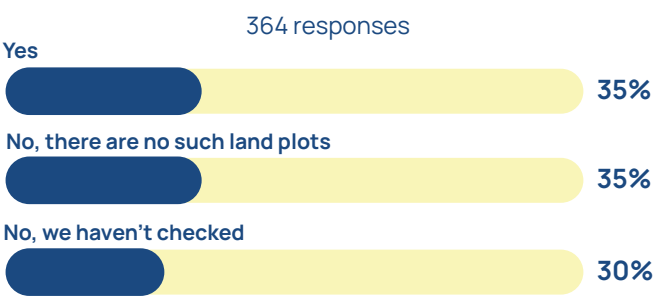
Most respondents who are not aware of the restrictions do not have a land plot near water bodies. Only 6 respondents, whose land plots are or may be near water bodies, are unaware of the restrictions.

Judging by the survey, the problem is insignificant, but in practice there is always the issue of compliance by farmers with the conditions for conducting activities within buffer strips. Therefore, it is important to provide for a training component, in particular on the potential economic benefits associated with maintaining buffer strips, introduction of restrictions in land management documentation, as well as introduction of a high-quality monitoring system and fines proportional to the damage.

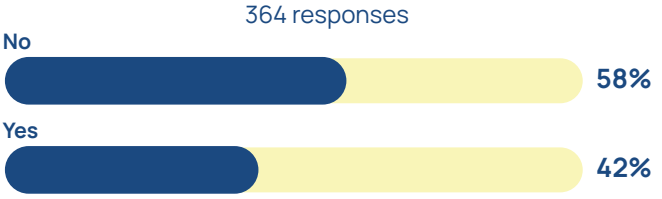
Slope management

Regarding the matter of slope management, the following answers were received:

Does your farm have a land plot with a slope over 3 degrees?

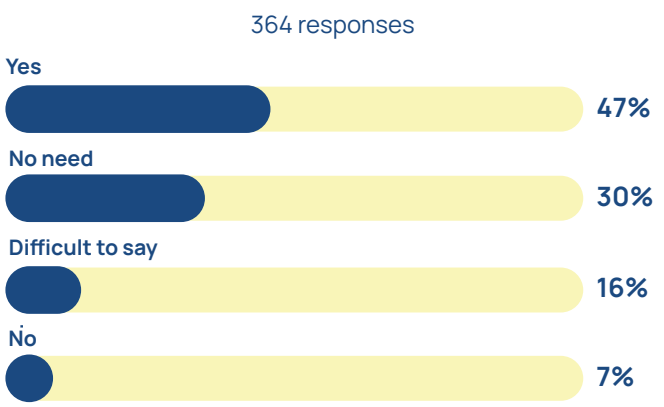


Are you aware of restrictions concerning the tilling of land plots with a slope over 3 degrees?



In general, the number of respondents who have (35%) or do not have (35%) land plots with a slope of more than 3 degrees is almost the same. The other 30% did not check if they have such lands under their management. At the same time, a significant share of farmers are not aware of the restrictions on farming on slopes exceeding 3 degrees. Restrictions for farmers are non-mandatory but they are recommended in order to reduce nutrient leaching and associated soil erosion clearly visible on slopes. Therefore, the matter of effective slope management is relevant for farmers and, apart from fertilizer use, it also concerns the preservation of soil health.

Would you be interested in learning and changing land management approaches concerning plots situated near water bodies or on slopes?



The vast majority of respondents (47%) are ready to learn more and change their approaches to management. There is also a significant share of farmers (16%) who are hesitant but could potentially be interested. At the same time, 37% of respondents (133 respondents) are not interested in this matter or do not feel such a need. 56 of them claim to be aware of the restrictions associated with proximity to water bodies and slope management, but a significant number are still unaware of possible restrictions or recommendations for the management of such areas. Therefore, it is important to raise awareness of the relevant needs, including due to cost-effectiveness, as well as to conduct further training and provide appropriate advice.

Resources and support farmers need

The results of the survey demonstrate a low level of awareness among farmers about the requirements of the Nitrates Directive.

It is assumed that some farms already follow the practices required by the Directive, and they will have no difficulties with adaptation. However, a significant number of farmers use other approaches that run contrary to the requirements of the Directive or do not comply with them.

It still remains to be established whether these traditional practices are more cost-effective for them, or whether switching to the relevant practices laid down in the Directive could be more feasible, helping to improve nutrient management on the farm.

Fertilizer Management

Prohibited (inappropriate) periods for fertilization could make adaptation for some farms more complicated. Therefore, it is necessary to analyse the current restrictions on the timing and types of fertilizers and compare them against farmers' actual practices. This will help find ways to improve fertilizer management while maintaining economic benefits. In this context, we might recommend considering the experience of Poland, which has introduced a more flexible schedule of fertilizer application (for example, it allowed application in February if temperature conditions are favourable).

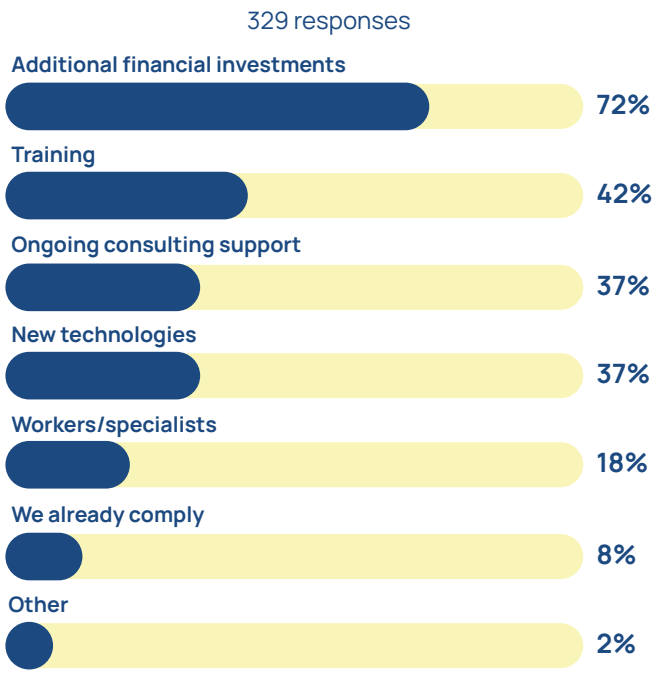
Issues related to fertilization plans and the correct calculation of the nitrogen contained in manure remain critical.

Farmers' answers manifest that they lack proper understanding of how to correctly calculate the nitrogen content obtained from manure.

Therefore, it is important to support initiatives aimed at providing farmers with fertilizer plans and assisting them with correct calculations of the nutrients required by plants. These calculations should take into account the expected yield and available nutrients from all sources (soil, crop residues, green manure, etc.).

Resources and support farmers need:

What resources do you need to introduce a fertilizer management system at your farm?

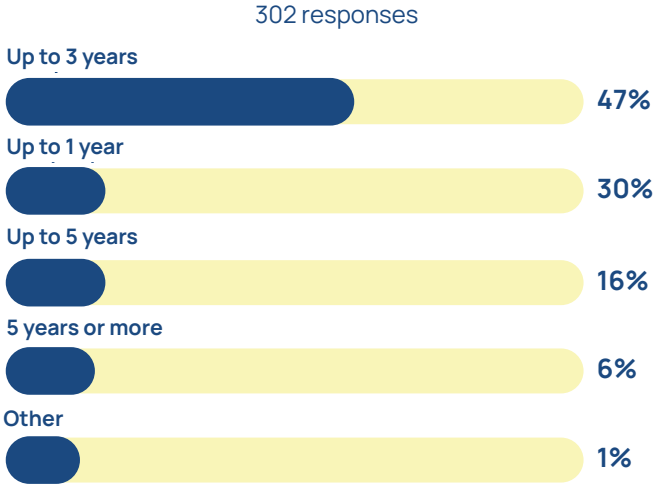


Financial support aimed to help adapt to new requirements and establish a fertilizer management system is of paramount importance for the survey participants (72%).

At the same time, farmers also need training (42%), new technologies (37%) and consulting support (37%) to successfully adapt.

Special attention should be paid to training, as most farmers draw up their own fertilization plans. Therefore, along with training as such, it is also important to develop agricultural consulting services that could ensure the necessary support, especially for small farms.

Provided you have the necessary resources, how much time will your farm need to introduce a fertilizer management system at your farm?

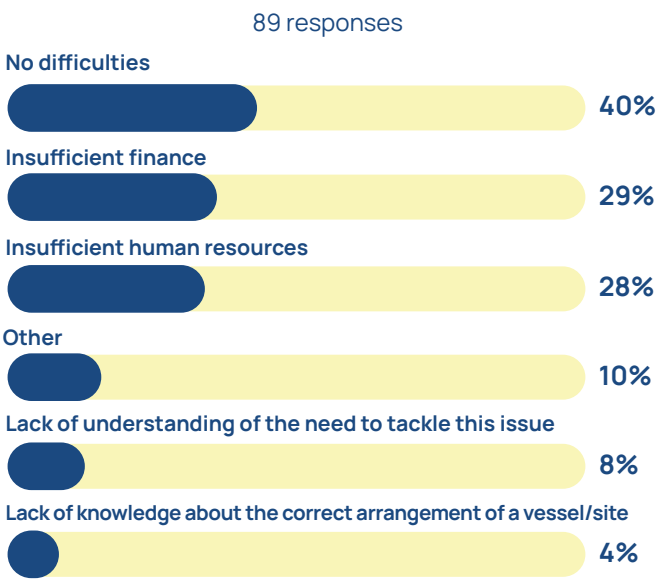


The survey shows that a significant share of farmers believe that they will be able to adapt with 1 to 3 years, but it is important to remember that it is possible on condition that they have the resources mentioned above.

Setting manure storage facilities

Preliminary findings indicate that a significant share of farms do not have permanent manure storage facilities and instead rely on temporary storage sites. Even if such facilities are in place, their floor is not necessarily impermeable and the capacity is not always sufficient to store manure for the entire period when land application is inappropriate.

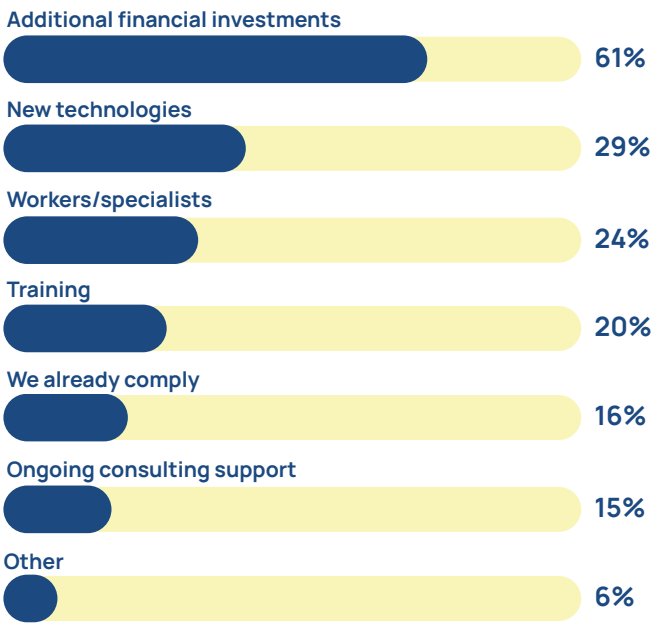
What difficulties with manure storage does your farm face?



At the same time, respondents do not report any difficulties with manure storage. This attests to the need to raise farmers' awareness of the potential negative impacts and financial losses associated with improper manure storage.

What resources do you need to introduce a manure storage and management system at your farm?

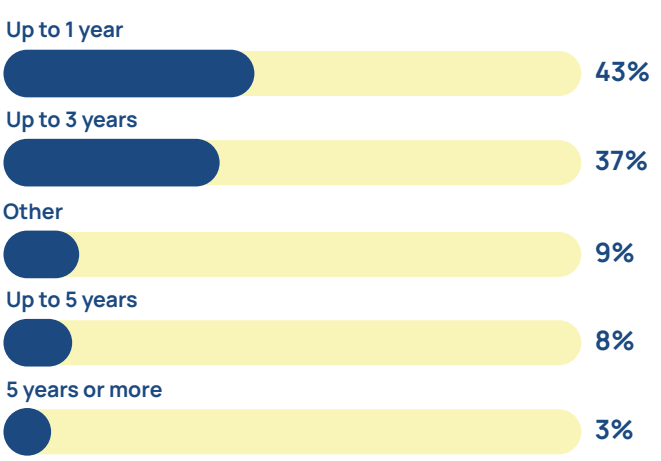
89 responses



First of all, farmers admit that additional financial investments are needed (61%). Second most important resource is new technologies (29%), which should be cost-effective. Important note: 16% of respondents claim that they have already fully deployed a fertilizer management system. However, it should be borne in mind that it mainly concerns the farms that use only temporary sites for manure storage.

Provided you have the necessary resources, how much time will your farm need to introduce a manure storage and management system at your farm?

75 responses



Expectations regarding the timeframe for the adaptation to the new requirements are quite optimistic. Most farmers believe that 1 to 3 years will be enough to set up the system. However, for a more realistic assessment of the time needed, farmers should carefully study all the requirements that need to be implemented.

Slope management and proximity to water bodies

Farmers are more aware of matters related to the proximity of their land to water bodies and slopes, but not everyone is aware of the restrictions or risks of conducting activities in these areas. Therefore, it will be advisable for farmers to undergo training and perform economic calculations that will clearly show that such activities in vulnerable zones often do more harm than good.

5.3. Farmers' opinions on challenges and opportunities in the area of "Biodiversity"

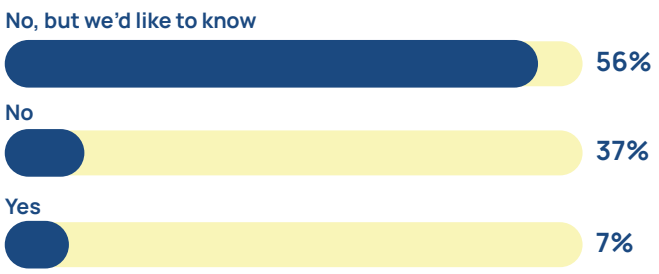
The questions concerning biodiversity in the survey were presented in a general context and were not broken down by specific Directives (which are described in more detail in Chapter 3).

These questions concerned all respondents.

One of the key matters was awareness of the Emerald Network sites.

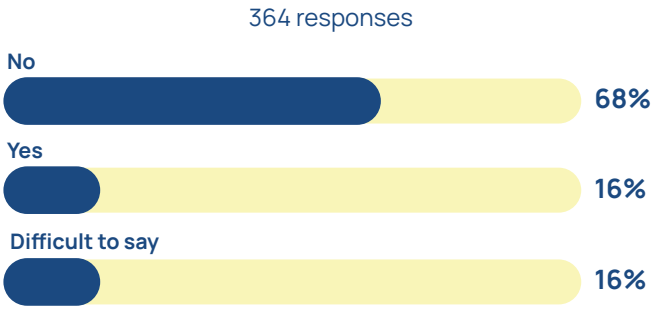
Do you know of what Emerald Network (Natura2000) sites are?

364 responses

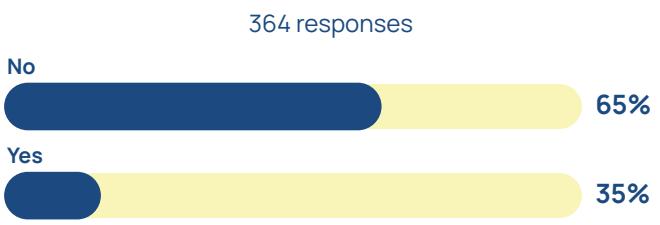


The results show that 93% of respondents do not know what these sites are and, accordingly, what restrictions might apply to them. On the upside, farmers have shown interest in figuring out the connection between Emerald Network sites and agriculture. However, there are currently few initiatives aimed at raising farmers' awareness specifically on this matter and helping them understand what areas may be subject to restrictions.

Do your land plots border on sites that might be valuable for the conservation of biodiversity (pastures, hey meadows, nature reserve fund territories, such as wildlife sanctuary, nature reserve, national park etc.)?



Do you know of restrictions that might apply to land plots that border on sites valuable for the conservation of biodiversity (pastures, hey meadows, nature reserve fund territories, such as wildlife sanctuary, nature reserve, national park etc.)?



Concerning the matter of biodiversity in a broader sense and how it is connected to local agriculture, the majority of farmers (68%) claim that their land plots do not border on pastures, hayfields or territories of the nature reserve fund (NRF).

At the same time, the vast majority of respondents (65%) are not aware of the restrictions that may be imposed if their site is located on the NRF territory or borders on it. This attests to farmers' low awareness of the legal regimes of various natural areas and the importance of their conservation.

To understand the situation, the challenges that farmers face and their willingness to change practices are of critical importance. Among them: financial fears (52%), loss of yield and profit (52%), limited financial resources (52%).

For small farmers, especially those vulnerable in terms of access to finance, any additional requirements that could lead to a drop in yields or profits would have significant negative consequences. Other significant challenges include: lack of knowledge and examples (35%) and lack of market for environmentally friendly products (32%).

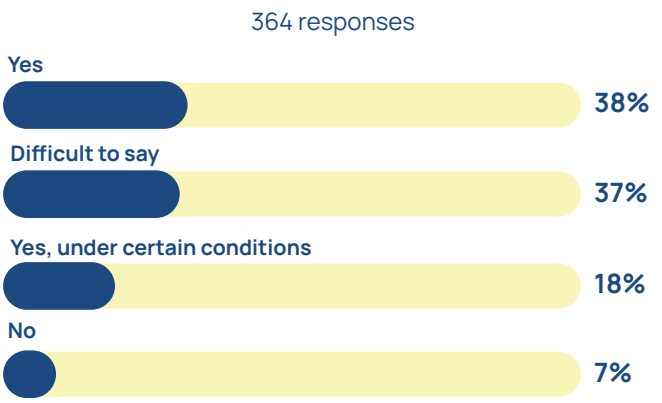
Even if biodiversity-friendly practices could have a positive impact on farmers and not cause losses, there are few such well-known examples in Ukraine. Therefore, it is necessary to launch pilot projects and scale up their successful experience.

The transition to more traditional and sustainable management methods often affects both the quality of products and their cost. Although the purchasing power of Ukrainians remains low, interest in quality and health is growing. Therefore, it is important to raise consumer awareness about the quality of such products and their fair market price.

10% of respondents also indicated that one of the challenges is a lack of understanding of the need to preserve biodiversity at all levels. This is a critical issue that needs to be raised at the national level to find a balance and to be further gradually rolled out at the local level.

Positive results have been observed with regard to farmers' willingness to change practices.

On sites that are valuable for preserving biodiversity, would you be willing to change your agricultural activities for more environmentally friendly ones, such as controlled grazing, haymaking etc.?



56% of respondents are generally willing to support biodiversity in their territories or are ready to do so under certain conditions, namely:

- Financial support (equipment, compensation for losses).
- Attitude to their business as a partner, rather than an offender.
- If there is no loss of income.
- Provision of another land plot as a replacement.

The respondents who answered “no” mostly referred to underdeveloped livestock farming and the high cost of renting land as reasons.

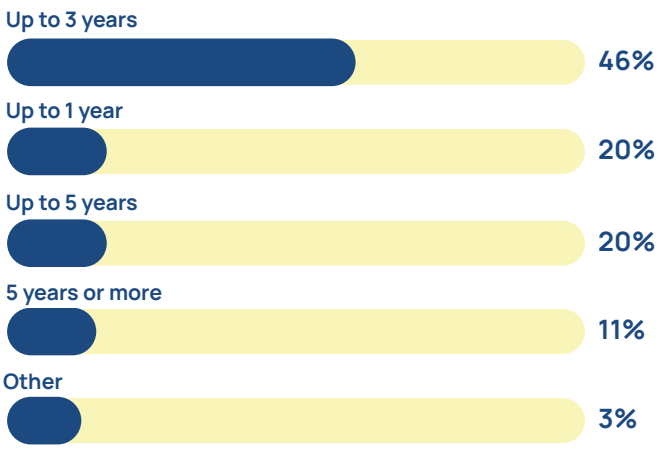
Resources and support farmers need

What resources does your farm need to ensure that your agricultural activities are in line with preserving biodiversity?

Farmers’ resource needs are directly associated with the challenges they face. The most critical issue is the need for additional financial investments (74%).

Information and examples of effective farming that can help conserve biodiversity come next in terms of needs. This requires training (45%) and ongoing consulting support (45%).

Provided you have the necessary resources, how much time will your farm need to ensure that your agricultural activities are in line with preserving biodiversity?



Regarding the time needed for adaptation, farmers’ expectations are less optimistic than in the previous sections, which means they understand that there will be certain difficulties with the rapid transition to new practices. Most respondents believe that it will take up to 3 years to adapt. At the same time, the number of those who checked “up to 1 year” and “up to 5 years” is the same.

The general recommendations on the harmonization of agricultural activities with the conservation of biodiversity, include the following:

- Raise awareness of all stakeholders — the government, regional and local communities, as well as farmers about the territories of the nature reserve fund, the Emerald Network, the importance of their preservation, and potential restrictions that may be imposed on these territories.
- Determine the agricultural lands overlapping with the Emerald Network sites.
- Organize training for farmers and agricultural consulting services with a focus on providing a rationale for the need to preserve biodiversity and for specific conservation practices on the farm.
- Support grazing livestock farming, which will help to restore and preserve a sustainable livestock model, as well as valuable natural areas, such as pastures.
- Support demo farms that could serve as examples for scaling and calculating the economic feasibility of biodiversity conservation.

Conclusions and recommendations 6

Conclusions

The environment and climate related components of the EU Common Agricultural Policy are cross-cutting elements that should be implemented both at the national level and directly at the level of agricultural holdings. They are integrated into the conditionality system, indicating the importance of farmers' compliance with the same requirements regardless of the EU country. Of course, the level of implementation of the requirements at the country level differs, but this is the right step towards ensuring equal and fair conditions for all.

Depending on which EU directives are included in the conditionality system within the framework of the Common Agrarian Policy, the level of adaptation and implementation of their requirements in Ukraine is different. However, in general, this level remains low.

The national regulatory framework still lacks many requirements. This applies in particular to the provisions of the Nitrates, Birds and Habitats Directives. The requirements of the Water Framework Directive are mainly laid down within the framework of the current legislation, but the issue of compliance and implementation by farmers still remains problematic.

According to the survey results, it can be concluded that there are no critical concerns, where a significant share of farmers would be strongly opposed to the implementation of relevant environmental practices. At the same time, farmers' general understanding of climate and environmental requirements (including current regulations e.g. on water use or manure management) is insufficient. To rectify the situation and ensure compliance with the regulations, it is necessary to focus on raising awareness, providing constant consulting support and establishing effective monitoring and control over the activities of farms.

Climate and environmental matters are often of low priority to key state bodies, including the Ministry of Economy, Environment and Agriculture and relevant committees of the Verkhovna Rada. The relevant authorities have not yet offered any effective tools to achieve ambitious climate and environmental goals. As a result, farmers do not have an incentive to pay due attention to these matters and implement more environmentally friendly practices. At the same time, a more sustainable bottom-up approach to changes, where the demand for the implementation of relevant environmental and climate practices is initiated by farms themselves, is unlikely because of war risks and limited resources. It is only because of the aggravation of the effects of the climate crisis in recent years that farmers demonstrate an urge for the implementation of adaptation measures. It is important that climate and environmental issues do not disappear from the agenda of the responsible executive bodies. It is mandatory to raise both awareness and capacity to make and implement relevant policies, especially on Ukraine's way towards EU accession.

Recommendations for the negotiating position

For the negotiating position, it is important to understand that the matters of climate and environmental conditions within the framework of the Common Agrarian Policy are addressed in two different chapters: Chapter 11 "Agriculture and Rural Development" and Chapter 27 "Environment and Climate Change".

Chapter 11 "Agriculture and Rural Development", focuses on institutional support for the implementation of the Common Agricultural Policy (CAP). This requires developing a system of conditionality, in particular implementing the necessary statutory management requirements (SMRs) and standards on good agricultural and environmental condition of land (GAECs), specified above in this report.

For the negotiating position and a plan for progressive implementation of the EU acquis, it is important to include and gradually develop a conditionality system within the operation of the Paying Agency. In particular, to perform this task, it is necessary to:

- adapt national legislation to EU requirements for SMRs and GAECs in terms of the conditionality system;
- develop and implement monitoring and control systems including on-site inspection procedures and use of Integrated Administration and Control System (IACS) to remotely monitor SMRs and GAECs requirements;
- provide initial and advanced training to the Paying Agency's staff on conditionality procedures;
- conduct outreach and training for key stakeholders (advisory services, regional agribusiness government bodies and farmers) on new conditionality requirements and rules for compliance with them.

The environmental requirements of SMRs are in line with specific EU Directives, the implementation of which is regulated under Chapter 27 "Environment and Climate Change". Each of them is at different stages of implementation, but it is important to further methodically integrate them into the state agricultural policy.

Water Framework Directive

- **Status of implementation**

  enshrined in the regulatory framework but requires increased capacity and actions to stimulate implementation and control.

Challenges

- Inconsistency of information that can be obtained/provided by farmers regarding permits for special water use or choosing to ignore the requirements.
- Problem with water monitoring and control of wastewater management by farms.

Recommendations

- Provision of information and consulting support to farmers concerning matters of special water use and wastewater management.
- Improvement of the water price policy to provide sufficient incentives for users to use water resources efficiently and contribute to the achievement of the objectives of the Directive.
- Implementation and improvement of the monitoring of pollution from diffuse sources.
- Encouraging to install water meters on the farm to track water use and understand the needs.

Resources needed by farmers:

- Additional financial investments (48%).
- Training (21%)
- New technologies (19%) and workers/ specialists (19%).

Time that farmers need to adapt to the requirements:

- More than 60% of respondents believe that they will be able to adapt to the requirements approximately within 3 years.

Nitrates Directive

- **Status of implementation**

  partially enshrined at the level of regulatory legal acts; requires the adoption of a relevant law and by-laws, as well as implementation at the level of central authorities and farms.

Challenges:

- Lack of a relevant law, which hinders further implementation of the Directive.
- Inappropriate (undesirable) periods for fertilization without scientific grounds and economic calculations may prevent the introduction of these periods at some types of farms. In particular, this applies to periods for such fertilizers as urea (carbamide) (40%), ammonium sulphate (38%) and sodium/calcium/ammonium nitrate (36%) – respondents admit that they use these fertilizers during periods when their application is inappropriate.
- Issues related to fertilization plans and the correct calculation of the nitrogen contained in manure remain critical.
- Most farms do not have a permanent, well-equipped facility to store manure and resort to temporary sites. There are difficulties with maintaining a sufficient capacity of manure storage facilities and ensuring the impermeability of their floor.
- Lack of awareness of the restrictions or risks associated with agricultural activities in the areas close to water bodies or on slopes.

Recommendations:

- Adoption of the relevant law and its gradual implementation.
- Development and adoption of an Action Programme to reduce nitrate pollution.
- Preparation of a scientific rationale for inappropriate (undesirable) periods for fertilizer application in particular based on the calculation of economic efficiency and regional specifics – and their discussion with farmers.
- Supporting initiatives aimed at assisting farmers in drawing up fertilization plans based on the needs of crops focusing on the planned yield, taking into account already available nutrients from all other sources (soil, crop residues, green manure, etc.).
- Increasing farmers' awareness of the negative impact and financial losses caused by improper manure storage.
- Development of digitalized tools for planning fertilizer application, calculation of manure storage facilities that could be used by small agricultural producers.
- Consulting and financial support to farmers for the arrangement of manure storage facilities with impermeable floor and with the right capacity based on the amount of their livestock.
- Continued financial support involving the state compensation for the reconstruction of livestock farms, in particular with a focus on the storage and handling of manure.
- Training of farmers and agricultural consulting services that will be able to provide the necessary support, especially for small farms, in the planning of fertilizer application, arrangement of manure storage facilities, and management of land near water bodies and on slopes.

Resources needed by farmers:

Fertilizer management	Arrangement of manure storage facilities
• Financial support (72%) • Training (42%) • New technologies (37%) • Consulting support (37%)	• Additional financial investments (61%) • New technologies (29%) • Workers/specialists (24%)

Time that farmers need to adapt to the requirements:

Fertilizer management and arrangement of manure storage facilities: Many farmers believe that they will be able to adapt within 1 to 3 years, but it is important to take into account that it might be possible on condition that the above-mentioned resources are available.

Birds and Habitats Directives

- **Status of implementation**

  not enshrined in the regulatory framework; requiring the adoption of a relevant law and by-laws, as well as increased capacity of the responsible bodies in order to draw up plans, implement measures and monitor their implementation.

Challenges:

- Lack of a relevant law and by-laws, as well as infrastructure to implement the requirements of the Directives and, in general, matters of biodiversity conservation when coupled with agricultural activities.
- Lack of understanding of the need to conserve biodiversity at all levels.
- Lack of awareness among farmers of the Emerald Network sites and of how to properly conduct their activities within these sites.
- Farmers' ignorance of the legal regimes of various territories and sites that belong to the nature reserve fund, as well as of the importance of their conservation.
- Farmers' financial concerns about potential yield and profit losses, as well as limited financial resources.
- Lack of knowledge and examples of effective combinations of agricultural practices and biodiversity conservation.
- Lack of a market for eco-friendly products.

Recommendations

- Adoption of a relevant law that will give an impulse to the adjustment of the management system of the Emerald Network sites and introduce a mechanism for assessing the impact on such sites.
- Raising awareness of all stakeholders – the Government, regional and local communities, as well as farmers – about the territories of the nature reserve fund and the Emerald Network, about the importance of their preservation and the approaches to managing these territories.
- Determining the share of agricultural land overlapping with the Emerald Network sites (later with NATURA2000 sites).

- Training for farmers and agricultural consulting services with a focus on the rationale for the need to preserve biodiversity and specific practices for its conservation on the specific farm.
- Supporting demo farms that could serve as examples for scaling and calculating the economic feasibility of biodiversity conservation.
- Financial support for farmers to implement biodiversity conservation practices in valuable protected areas (compensation for losses, purchase of equipment, etc.).
- Support for grazing livestock farming, which will help to restore and preserve a sustainable livestock farming model, as well as valuable natural areas, such as pastures/hayfields.

Resources needed by farmers:

- Additional financial investments (74%).
- Training (45%).
- Ongoing consulting support (45%).

Time that farmers need to adapt to the requirements:

Most respondents believe that it will take up to 3 years to adapt. At the same time, the share of those who checked “up to 1 year” and “up to 5 years” is the same (20% each).

Annexes

Annex 1. Respondents' answers to the question: whether they apply mineral fertilizers (ammonium sulphate) during periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers)	Regions
Ammonium sulphate **December 1 to March 1,** **June 1 to September 31**	**38% (124 respondents)** apply the fertilizer during these periods	• **Centre – 54 respondents** • **South – 33 respondents** • **West – 13 respondents** • **East – 8 respondents** • **North – 14 respondents** • **All of Ukraine – 2 respondents**
	39% (129 respondents) do not use the fertilizer	• **Centre – 49 respondents** • **South – 40 respondents** • **West – 18 respondents** • **East – 13 respondents** • **North – 9 respondents**
	16% (53 respondents) apply it in other periods	• **Centre – 18 respondents** • **South – 12 respondents** • **West – 11 respondents** • **East – 6 respondents** • **North – 6 respondents**
	7% (23 respondents) find it difficult to answer	• **Centre – 13 respondents** • **South – 4 respondents** • **West – 2 respondents** • **East – 2 respondents** • **North – 2 respondents**

Annex 2. Respondents' answers to the question: whether they apply mineral fertilizers (sodium/calcium/ammonium nitrate) in periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers)	Regions
Sodium/calcium/ ammonium nitrate **November 1 to February 15** **July 15 to September 1**	**36% (118 respondents)** apply the fertilizer during these periods	• **Centre – 48 respondents** • **South – 41 respondents** • **West – 15 respondents** • **East – 7 respondents** • **North – 5 respondents** • **All of Ukraine – 2 respondents**
	30% (99 respondents) do not use the fertilizer	• **Centre – 41 respondents** • **South – 20 respondents** • **West – 13 respondents** • **East – 9 respondents** • **North – 16 respondents**
	28% (91 respondents) apply it in other periods	• **Centre – 34 respondents** • **South – 23 respondents** • **West – 14 respondents** • **East – 12 respondents** • **North – 8 respondents**
	6% (21 respondents) find it difficult to answer	• **Centre – 11 respondents** • **South – 5 respondents** • **West – 2 respondents** • **East – 1 respondent** • **North – 2 respondents**

Annex 3. Respondents' answers to the question: whether they apply mineral fertilizer (urea (carbamide)) during periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers	Regions
Urea (carbamide) December 1 to February 15 July 15 to September 31	**40% (133 respondents)** apply the fertilizer during these periods	• Centre – 61 respondents • South – 38 respondents • West – 16 respondents • East – 10 respondents • North – 7 respondents • All of Ukraine – 1 respondent
	16% (54 respondents) do not use the fertilizer	• Centre – 19 respondents • South – 17 respondents • West – 10 respondents • East – 4 respondents • North – 3 respondents • All of Ukraine – 1 respondent
	38% (124 respondents) apply it in other periods	• Centre – 46 respondents • South – 29 respondents • West – 16 respondents • East – 14 respondents • North – 19 respondents
	5% (18 respondents) find it difficult to answer	• Centre – 8 respondents • South – 5 respondents • West – 2 respondents • East – 1 respondent • North – 2 respondents

Annex 4. Respondents' answers to the question: whether they apply mineral fertilizer (UAN – urea ammonium nitrate) during periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers)	Regions
UAN (urea ammonium nitrate) **December 1 to February 15** **July 15 to September 31**	**27% (89 respondents)** apply the fertilizer during these periods	• **Centre – 34 respondents** • **South – 29 respondents** • **West – 10 respondents** • **East – 8 respondents** • **North – 7 respondents** • **All of Ukraine – 1 respondent**
	49% (162 respondents) do not use the fertilizer	• **Centre – 69 respondents** • **South – 45 respondents** • **West – 23 respondents** • **East – 11 respondents** • **North – 14 respondents**
	19% (64 respondents) apply it in other periods	• **Centre – 25 respondents** • **South – 11 respondents** • **West – 9 respondents** • **East – 9 respondents** • **North – 9 respondents** • **All of Ukraine – 1 respondent**
	4% (14 respondents) find it difficult to answer	• **Centre – 6 respondents** • **South – 4 respondents** • **West – 2 respondents** • **East – 1 respondent** • **North – 1 respondent**

Annex 5. Respondents answers to the question: whether they apply solid organic fertilizers during periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers)	Regions
Solid organic fertilizers **November 15 to March 15** **June 1 to July 31**	**24% (78 respondents)** apply the fertilizer during these periods	• **Centre – 33 respondents** • **South – 19 respondents** • **West – 15 respondents** • **East – 4 respondents** • **North – 6 respondents** • **All of Ukraine – 1 respondent**
	44% (145 respondents) do not use the fertilizer	• **Centre – 59 respondents** • **South – 43 respondents** • **West – 18 respondents** • **East – 9 respondents** • **North – 15 respondents** • **All of Ukraine – 1 respondent (cattle, pig breeding)**
	29% (95 respondents) apply it in other periods	• **Centre – 39 respondents** • **South – 26 respondents** • **West – 9 respondents** • **East – 12 respondents** • **North – 9 respondents**
	3% (11 respondents) find it difficult to answer	• **Centre – 3 respondents** • **South – 1 respondent** • **West – 2 respondents** • **East – 4 respondents** • **North – 1 respondent**

Annex 6. Respondents' answers to the question: whether they apply liquid organic fertilizers during periods that are inappropriate in accordance with the Nitrates Directive

Type of fertilizer and limitation period	Answers received (329 answers)	Regions
Liquid organic fertilizers **November 15 to March 15**	**12% (38 respondents)** apply the fertilizer during these periods	• **Centre – 13 respondents** • **South – 10 respondents** • **West – 7 respondents** • **East – 3 respondents** • **North – 4 respondents** • **All of Ukraine – 1 respondent**
	52% (172 respondents) do not use the fertilizer	• **Centre – 70 respondents** • **South – 52 respondents** • **West – 22 respondents** • **East – 11 respondents** • **North – 16 respondents** • **All of Ukraine – 1 respondents**
	32% (106 respondents) apply it in other periods	• **Centre – 45 respondents** • **South – 26 respondents** • **West – 14 respondents** • **East – 12 respondents** • **North – 9 respondents**
	4% (13 respondents) find it difficult to answer	• **Centre – 6 respondents** • **South – 1 respondent** • **West – 1 respondents** • **East – 3 respondents** • **North – 2 respondents**

UKRAINIAN CENTRE FOR EUROPEAN POLICY

The Ukrainian Center for European Policy (UCEP) is an independent think tank for policy analysis and development, established in 2015.

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- informing the international community about the challenges and achievements of Ukraine's reform process under the EU-Ukraine Association Agreement.

Ukrainian Centre for European Policy

Research author

Maria Bielkina

Head of the Agriculture Department, NGO Ecoaction

Reviewing

Lyubov Akulenko

Executive Director of the Ukrainian Center for European Policy, Candidate of Sciences in Public Administration

Dmytro Naumenko

Senior Analyst, Ukrainian Center for European Policy

Yanina Basista

Expert on circular economy and waste management, NGO "Ecosmart"

Anna Danyliak

Specialist of the Agriculture Department, NGO Ecoaction

Iryna Kazakova

Specialist of the Agriculture Department, NGO Ecoaction

Bohdan Kuchenko

Expert on biodiversity protection, NGO Ecoaction

This study was prepared by the Ukrainian Center for European Policy with the support of the Konrad Adenauer Foundation in Ukraine (Kyiv). The information and views expressed in this study are those of the authors and do not necessarily reflect the views of the Konrad Adenauer Foundation. The authors are solely responsible for any errors contained in this study. Furthermore, this study does not reflect the position of their institutions.

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